# George Edwards, PhD

Computer Scientist

323-545-3933

george@quandarypeak.com

**Quandary Peak Research** 

205 S Broadway, Suite 300 Los Angeles, CA 90012

quandarypeak.com/george

## **Education**

Ph.D. in Computer Science

University of Southern California | Aug 2010

M.S. in Computer Science

University of Southern California | May 2006

B.S. in Computer Science, Minor in Mathematics

Vanderbilt University | Aug 2003

## **Employment**

## **President & Principal Computer Scientist**

Quandary Peak Research | Los Angeles, CA | June 2012-Present

- Providing software analysis and expert witness testimony in software-related litigation, including patent and copyright infringement, theft of trade secrets, breach-of-contract, and other matters.
- Analyzing software intellectual property and patent portfolios for validity and infringement in the context of licensing and brokering negotiations, startup investments, and M&A.
- Investigating software failures to determine the root cause and help clients understand whether and how the failure could have been avoided.
- Applying advanced analytic techniques based on calibrated parametric models for valuation of software products and estimation of software development costs.
- Documenting the architecture of software systems to identify structural similarities and differences among competing products and services and deduce the origin of software designs and code.

## **Lecturer of Computer Science**

Computer Science Department, University of Southern California | Jan 2012 - May 2017

- Teaching a graduate-level software engineering course for M.S. and Ph.D. students and practicing software and aerospace engineers (CSCI 568).
- Previously taught an undergraduate-level course on programming fundamentals, algorithms, and data structures (CSCI 102).

#### Co-Founder and CEO

Blue Cell Software | Los Angeles, CA | Aug 2010-June 2012

 Led and managed the development of a next-generation modeling and analysis platform for complex software-intensive systems.

- Developed advanced model-based algorithms for reliability, efficiency, and risk analysis.
- Conceived and implemented the business development strategy and produced and presented investment proposals.

## **Post-Doctoral Researcher**

Center for Systems and Software Engineering, University of Southern California | Feb 2011-Sept 2011

- Conducted research on enterprise integration mechanisms to support net-centric operations.
- Investigated methods, processes, and tools for decomposition and refinement of SoS capability needs into detailed requirements and integration architectures for an NSA-funded research project.
- Designed key components of PATFrame, a decision support system for planning test events of networks of unmanned and autonomous vehicles.
- Applied lessons learned from large-scale corporate mergers, including the HP-Compaq merger, to software and systems integration challenges faced by the DoD and NSA.

#### **Graduate Fellow**

Computer Science Department, University of Southern California | Aug 2004-Aug 2010

- Designed and implemented XTEAM a model-driven software design, analysis, and code generation toolset.
   XTEAM allows software architects to create domain-specific software architecture models, evaluate those models with respect to quality metrics, and automatically synthesize custom code. XTEAM has been utilized by more than a dozen software engineering projects in academia and industry.
- Built key components of Prism-MW, a novel Java-based implementation platform for mobile and handheld devices that enables rapid development of event-based applications.
- Invented the adaptive layered style, an architectural style for autonomous systems, and designed the corresponding implementation support in Prism-MW.
- Developed iterative redundancy, an algorithm for reliably distributing and replicating computation on untrusted networks of faulty and malicious nodes.
- Contributed as an architect and developer to a diverse set of experimental software systems, such as computer simulations of volunteer computing networks and collaboration tools for geographically distributed teams of engineers.

## **Research Associate**

Intelligent Systems Technology, Inc. | Los Angeles, CA | May 2009 – Jan 2010

- Designed and implemented an instructional game for US Army vehicle maintenance technicians that teaches techniques for making decisions in the presence of uncertainty.
- Developed research grant proposals for DoD and DHS funding through the Small Business Innovation Research (SBIR) program and Broad Agency Announcements (BAAs).
- Briefed managers of research funding programs at DoD and DHS on critical research challenges and opportunities in computer science and software engineering.

#### Graduate Research Intern

T.J. Watson Research Center, IBM | Yorktown Heights, NY | May 2008-Aug 2008

 Developed elements of BlueStar, a scalable mobile device management and provisioning system. BlueStar allows system administrators to easily manage the configuration of thousands of mobile devices.

- Co-designed Proxima, a context-aware search service for mobile devices. Proxima provides image based search
  capabilities for finding people in a large database by leveraging contextual information associated with an image,
  such as location, time, and the unique characteristics of the user.
- Developed requirements for a mobile application for insurance adjusters and managed a team of overseas programmers.

## Software Engineer

The Boeing Company | Huntington Beach, CA | June 2005-Aug 2006

- Advised, coordinated, and assisted C4ISR software architecture modeling and analysis efforts leveraging state-of-the-art model-driven engineering technologies.
- Developed the architecture for a mobile (handheld) device for controlling unmanned autonomous air and ground robots.
- Integrated multiple independent simulations of interactions among military vehicles and networks to create test harnesses for subcontractor-supplied software components.
- Created and evaluated software architecture descriptions, guidance memoranda, requirements specifications, design models, trade studies, risk analyses, and development schedules.

#### **Graduate Research Assistant**

Computer Science Department, Vanderbilt University | Nashville, TN | Sept 2003-May 2004

- Developed a CORBA Component Model framework that supports application access to highly optimized and scalable event-based (publish-subscribe) communication services.
- Created a specification language and supporting toolset for configuring QoS policies in component based DRE systems.
- Designed regression tests and enhanced support for key capabilities in a real-time CORBA implementation.

#### **Network Technician**

CTC Networks | Nashville, TN | Oct 2002-Mar 2003

- Administered Windows-based small business networks and performed network and PC upgrades, troubleshooting, and repair.
- Advised business clients on software purchasing and technology infrastructure investment decisions.

#### e-Business Consultant

Nebraska e-Commerce Association | Lincoln, NE | May 2001 - Aug 2001

Advised small businesses on e-commerce development and implementation strategies.

## **Web Developer**

Nebraska Educational Telecommunications | Lincoln, NE | May 1998-Aug 2000

- Developed front-end HTML and JavaScript and secure grade assessment software for CLASS, the first web-delivered, fully accredited high school.
- Implemented a multimedia publishing system for web-based distribution of television programs.

# **Litigation Consulting**

## • Inter Partes Review of U.S. Patent No. 8,737,933 and Patent No. 9,173,054 | Mar 2024-Present

Jurisdiction: U.S. Patent and Trademark Office (USPTO)

Case Number: IPR2024-00305

Counsel: McKool Smith, Alston & Bird LLP

Nature of Suit: Patent

# • InQuisient Inc v. ServiceNow, Inc | Mar 2024-Present Jurisdiction: US District Court for the District of Delaware

Case Number: 1:22-cv-00900 Counsel: Fish & Richardson P.C.

Nature of Suit: Patent

## · Electronic Devices Including Smartphones, Computers, Tablet Computers, and Components Thereof

Dec 2023-Present

Jurisdiction: International Trade Commission (ITC)

Case Number: 337-TA-1373 Counsel: Alston & Bird LLP Nature of Suit: Patent

## • Security First Innovations, LLC vs Google LLC | Dec 2023-Present

Jurisdiction: US District Court Eastern District of Virginia Alexandria Division

Case Number: 2-23-cv-00097-EWH-RJK Counsel: Sullivan & Cromwell LLP

Nature of Suit: Patent

## • Smart Mobile Technologies, LLC v. Samsung Electronics Co. Ltd. | Oct 2023-Present

Jurisdiction: Western District of Texas

Case Number: 6:21-cv-00701 Counsel: Graves & Shaw LLP

Nature of Suit: Patent

#### • AGI Suretrack, LLC v. Farmers Edge Inc | Sept 2023-Present

Jurisdiction: U.S. District Court for the District of Nebraska

Case Number: 8:22-cv-00275-JFB-SMB

Counsel: Irell & Manella LLP Nature of Suit: Patent

## · Club Speed, LLC v. K1 Speed, Inc. | July 2023-Present

Jurisdiction: Superior Court of California Case Number: 30-2022-01241507-CU-BC-CJC

Counsel: Rutan & Tucker, LLP Nature of Suit: Breach of Contract

## • University of Victoria v. FreshWorks Studio Inc | July 2023-Present

Jurisdiction: BC Supreme Court

Case Number: S-226081 Counsel: Smart & Biggar LLP

## • Entangled Media, LLC v. Dropbox, Inc. | May 2023-Present

Jurisdiction: Western District of Texas

Case Number: 1:22-cv-01324 Counsel: Skiermont Derby Nature of Suit: Patent

## • Multimodal Media LLC v. ZTE Corporation | Mar 2023-Oct 2023

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 2:21-cv-00437 Counsel: McDermott Will & Emery

Nature of Suit: Patent

## • Cutting Edge Vision, LLC v. TCL Technology Group Corporation, et al. | Mar 2023 – Aug 2023

Jurisdiction: U.S. District Court for the Western District of Texas

Case Number: 6:22-cv-00285

Counsel: Law Offices of Lisa and Lesko

Nature of Suit: Patent

## • Espíritu Santo Holdings, LP & L1bre Holding, LLC v. United Mexican States | Dec 2022-Present

Jurisdiction: ICSID

Case Number: ARB/20/13 - 20417 (filed September 17, 2021)

Counsel: Pillsbury Winthrop Shaw Pittman LLP Nature of Suit: International Investment Arbitration

Technology: Mobile phone applications, ride hailing services

#### LQK Corporation v. Overall Parts Solutions | Nov 2022 – Present

Jurisdiction: Court of Chancery of the State of Delaware

Case Number: 2022-0036 Counsel: Jones Day

Nature of Suit: Breach of Contract

#### • IPA Technologies, Inc. v. Microsoft Corp. | Oct 2022-Present

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 1:18-cv-00001 Counsel: Skiermont Derby LLP

Nature of Suit: Patent

## • Multimodal Media LLC v. Guangdong OPPO Mobile Telecomm. Corp., Ltd. | Sept 2022-Sept 2023

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 2:21-cv-00436 Counsel: Moore IP Law Nature of Suit: Patent

#### · Ark Innovation Technology Inc., et al. v. Matidor Technologies Inc. et al. | May 2022-Present

Jurisdiction: Federal Court of Canada

Case Number: 1163929 Counsel: Gowling WLG Nature of Suit: Copyright

#### • Farmobile, LLC v. Farmers Edge, Inc. | May 2022-Sept 2023

Jurisdiction: U.S. District Court for the District of Nebraska

Case Number: 8:22-cv-00275 Counsel: Irell & Manella LLP

## • Artec Europe S.a.r.l. v. Schenzen Creality 3D Technology Co., Ltd., et al. | Apr 2022 - Present

Jurisdiction: U.S. District Court for the Eastern District of New York

Case Number: 1:22-cv-01676

Counsel: Munck Wilson Mandala LLP

Nature of Suit: Patent

## Autoscan GmbH et al v. 5121175 Manitoba LTD d/b/a DCC Hail | Nov 2020 – Sept 2021

Jurisdiction: Federal Court of Canada

Case Number: T-359-20 Counsel: Gowling WLG Nature of Suit: Copyright

## • Intellicad Technology Consortium v. Suzhou Gstarsoft Co. Ltd. | July 2020-Oct 2020

Jurisdiction: U.S. District Court for the District of Oregon

Case Number: 3:19-cv-01963 Counsel: Perkins Coie LLP Nature of Suit: Copyright

## • Denika Terry, et al. v. Wasatch Advantage Group, LLC et al. | June 2020 – July 2020

Jurisdiction: Superior Court of California, County of Los Angeles

Case Number: 34-2014-00158417

Counsel: Goldstein, Borgen, Dardarian & Ho

Nature of Suit: Class Action

## · American National Manufacturing, Inc. v. Sleep Number Corporation | Sept 2019–July 2020

Jurisdiction: United States Patent and Trademark Office

Case Number: IPR2019-00497, IPR2019-00500, IPR2019-00514

Counsel: Fox Rothschild LLP Nature of Suit: Patent

## · Bookman v. Resorts World Casino New York City, Genting New York LL

## and International Game Technology PLC | Sept 2019-Oct 2019

Jurisdiction: Supreme Court of the State of New York, Queens County

Case Number: 0713839/2017 Counsel: Proskauer Rose LLP

Nature of Suit: Negligence and Breach of Contract

#### • IPA Technologies, Inc. v. Google LLC | May 2019-Present

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 18-cv-00318 Counsel: Skiermont Derby LLP

Nature of Suit: Patent

## • IPA Technologies, Inc. v. Amazon.com, Inc. et al. | May 2019-Apr 2022

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 18-cv-00318 Counsel: Skiermont Derby LLP

Nature of Suit: Patent

# • <u>Sequoia Technology LLC</u> v. Dell, Inc., Dell Technologies Inc., Hewlett Packard Enterprise Co., Hitachi Ltd,

and Super Micro Computer | Oct 2018 – Jan 2023

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 1:18-cv-01127

Counsel: One LLP Nature of Suit: Patent

## Lithography Machines and Systems, and Components Thereof | Sept 2018 – Apr 2019

Jurisdiction: U.S. International Trade Commission

Case Number: 337-TA-1128, 337-TA-1129

Counsel: Morrison & Foerster LLP (Nikon Corporation)

Nature of Suit: Patent

## · Sleep Number Corporation v. Sizewise Rentals, LLC

and American National Manufacturing, Inc. | Aug 2018-Dec 2020

Jurisdiction: U.S. District Court for the Central District of California

Case Number: 5:18-cv-00356 Counsel: Fox Rothschild LLP Nature of Suit: Patent

## Capstone Logistics Holdings, Inc., et al. v. <u>Humano, LLC, et al.</u> | June 2018 – Jan 2019

Jurisdiction: U.S. District Court for the Southern District of New York

Case Number: 1:17-cv-04819

Counsel: Ferber Law

Nature of Suit: Copyright and Trade Secret

#### • Arlynn Whittaker v. Glaser Weil Fink Howard Avchen & Shapiro, LLP | Mar 2018-Oct 2018

Jurisdiction: Superior Court of California, County of Los Angeles

Case Number: BC657065, BC664506

Counsel: Baker Marquart

Nature of Suit: Professional Negligence

## • CyWee Group Ltd. v. ZTE Corporation, ZTE (USA), Inc., and ZTE (TX), Inc. | Feb 2018 – Jan 2019

Jurisdiction: U.S. District Court for the Southern District of California

Case Number: 3:17-cv-02130

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

#### • SEVEN Networks, LLC v. ZTE (USA) Inc. and ZTE Corporation | Jan 2018-Aug 2019

Jurisdiction: U.S. District Court for the Northern District of Texas

Case Number: 3:17-cv-01495

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

#### • Farmobile, LLC v. Farmers Edge Inc. | Nov 2017-Present

Jurisdiction: Federal Court of Canada

Case Number: FC 915, FC 688, FC 915, FC 1269

Counsel: Gowling WLG Nature of Suit: Patent

## • Space Data Corporation v. Alphabet Inc., Google LLC, and Loon, LLC | July 2017-Sept 2019

Jurisdiction: U.S. District Court for the Northern District of California

Case Number: 5:16-cv-03260 Counsel: Hosie Rice LLP

Nature of Suit: Patent and Trade Secret

## • Hitachi Maxell, Ltd. v. ZTE Corp. and ZTE USA Inc. | July 2017-June 2018

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 16-cv-00179

Counsel: Pillsbury Winthrop Shaw Pittman LLP

## • Semcon IP Inc. v. ZTE Corporation, et al. | May 2017–Mar 2018

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 16-cv-00437

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

## • Vesta Corporation v. Amdocs Management Limited and Amdocs, Inc. | Mar 2017-Nov 2018

Jurisdiction: U.S. District Court for the District of Oregon

Case Number: 3:14-cv-01142 Counsel: Perkins Coie LLP Nature of Suit: Trade Secret

## • eBay, Inc. v. Masterobjects, Inc. | Mar 2017-July 2018

Jurisdiction: United States Patent and Trademark Office

Case Number: IPR2017-00740 Counsel: Carr & Ferrell LLP Nature of Suit: Patent

## • Implicit, LLC v. Trend Micro, Inc. | Jan 2017-Oct 2017

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 6:16-cv-00080, 6:17-cv-00183

Counsel: DiNovo Price Ellwanger LLP

Nature of Suit: Patent

#### • Implicit, LLC v. Ericsson, Inc. | Jan 2017-Mar 2017

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 6:16-cv-00075, 6:17-cv-00181 Counsel: DiNovo Price Ellwanger LLP

Nature of Suit: Patent

## • Sound View Innovations, LLC v. Facebook, Inc. | Aug 2016 – Jan 2018

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 1:16-cv-00116 Counsel: Desmarais LLP Nature of Suit: Patent

#### • Farmers Edge, Inc., et al. v. Farmobile LLC, et al. | July 2016-May 2018

Jurisdiction: U.S. District Court for the District of Nebraska

Case Number: 8:17-cv-00225 Counsel: Husch Blackwell LLP

Nature of Suit: Trade Secret and Breach of Contract

## · Certain Air Mattress Systems, Components Thereof, and Methods of Using the Same | Apr 2016 - May 2016

Jurisdiction: U.S. International Trade Commission

Case Number: 337-TA-971

Counsel: Pillsbury Winthrop Shaw Pittman LLP (Sleep Number Corporation)

Nature of Suit: Patent

## • Synca Direct Inc. v. Scil Animal Care Company and Vet Novations, Inc. | Mar 2016-Dec 2016

Jurisdiction: U.S. District Court for the Northern District of New York

Case Number: 8:15-cv-00794 Counsel: White and Williams LLP Nature of Suit: Breach of Contract

## • TiVo, Inc. v. Samsung Electronics Co., Ltd., et al. | Mar 2016 - Nov 2016

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 2:15-cv-01503 Counsel: Irell & Manella LLP Nature of Suit: Patent

## • Backflip Software, Inc. v. Cisco Systems, Inc. | Feb 2016-Oct 2016

Jurisdiction: Superior Court of California, County of Santa Clara

Case Number: 2013-1-cv-242234

Counsel: Hosie Rice LLP

Nature of Suit: Breach of Contract

## • Cellular Communications Equipment, LLC v. HTC Corporation and ZTE Corp. | Dec 2015-Aug 2018

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 2:15-cv-00576

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

## • Ericsson Inc., et al. v. TCL Communication Technology Holdings, Ltd., et al. | Sept 2015-Dec 2015

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 2:15-cv-00011

Counsel: Sheppard Mullin Richter & Hampton LLP

Nature of Suit: Patent

## Chipp'd Ltd. v. Crush & Lovely LLC | July 2015 – Sept 2015

Jurisdiction: American Arbitration Association

Counsel: White and Williams LLP Nature of Suit: Breach of Contract

## • Bryndon Fisher v. The United States of America | Aug 2015-July 2023

Jurisdiction: United States Court of Federal Claims

Case Number: 13-608C

Counsel: Schubert Jonckheer & Kolbe LLP

Nature of Suit: Class Action

## • Seymore Levine v. The Boeing Company | July 2015-Jan 2016

Jurisdiction: U.S. District Court for the Central District of California

Case Number: 2:14-cv-06859

Counsel: Quinn Emanuel Urguhart & Sullivan LLP

Nature of Suit: Patent

#### Global Cash Access, Inc. v. NRT Technology Corp. et al. | July 2015-Mar 2016

Jurisdiction: U.S. District Court for the District of Nevada

Case Number: 2:15-cv-00822

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

## · Anthony Johnson v. Storix, Inc. | June 2015-Dec 2015

Jurisdiction: U.S. District Court for the Southern District of California

Case Number: 3:14-cv-01873 Counsel: Eastman & McCartney LLP

Nature of Suit: Copyright

## • Custom Media Technologies LLC v. AT&T Services, Inc., et al. | Apr 2015 – June 2015

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 1:13-cv-01419

Counsel: Freitas Angell & Weinberg LLP

Nature of Suit: Patent

## • Huricks et al. v. Shopkick, Inc. | Apr 2015-Aug 2015

Jurisdiction: U.S. District Court for the Northern District of California

Case Number: 4:14-cv-02464 Counsel: Newman DuWors. LLP

Nature of Suit: Telephone Consumer Protection Act (TCPA)

## • Fox Television Stations, Inc. v. FilmOn X, LLC, et al. | Mar 2015-July 2015

Jurisdiction: U.S. District Court for the District of Columbia

Case Number: 1:13-cv-00758 Counsel: Baker Marquart LLP Nature of Suit: Copyright

## • e-Watch, Inc. et al. v. ZTE Solutions, Inc., ZTE (USA) Inc. and ZTE Corp. | Mar 2015 - Jan 2017

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 2:13-cv-01071

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

#### Novatel Wireless, Inc., et al. v. ZTE Corp. and ZTE (USA) Inc. | Jan 2015 – July 2015

Jurisdiction: U.S. District Court for the Southern District of California

Case Number: 3:12-cv-02576

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

## • Essociate, Inc. v. Clickbooth.com, LLC | Oct 2014-Feb 2015

Jurisdiction: U.S. District Court for the Central District of California

Case Number: 8:13-cv-01886 Counsel: Newman DuWors, LLP

Nature of Suit: Patent

#### · Adaptix, Inc. v. ZTE Corporation, ZTE Solutions, Inc., and ZTE (USA) Inc. | Sept 2014-July 2016

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 6:13-cv-00438

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

## • VStream Technologies, LLC v. ZTE Corporation and ZTE (USA) Inc., et al. | Sept 2014–July 2015

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 6:14-cv-00296

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

## • State of California v. Burlena King | Aug 2014-Sept 2014

Jurisdiction: Superior Court of California, County of Los Angeles Counsel: Law Offices of the Los Angeles County Public Defender

Nature of Suit: Criminal

## • Hill-Rom Company, Inc., et al. v. General Electric Company | July 2014-Sept 2014

Jurisdiction: U.S. District Court for the Eastern District of Virginia

Case Number: 2:14-cv-00187 Counsel: Schiff Hardin LLP Nature of Suit: Patent

## • Personal Audio LLC v. ZTE Corporation, et al. | July 2014-May 2015

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 1:14-cv-00008

Counsel: Pillsbury Winthrop Shaw Pittman LLP

Nature of Suit: Patent

## • Yardi Systems, Inc. v. Property Solutions International, Inc. | May 2014-Sept 2019

Jurisdiction: U.S. District Court for the Central District of California

Case Number: 2:13-cv-07764 Counsel: Morrison & Foerster, LLP

Nature of Suit: Copyright and Trade Secret

## · AgJunction, LLC v. Agrian, Inc. et al. | Apr 2014-Feb 2015

Jurisdiction: U.S. District Court for the District of Kansas

Case Number: 2:14-cv-02069 Counsel: Husch Blackwell LLP

Nature of Suit: Copyright and Trade Secret

#### • Davies v. L.A. Checker Cab | Apr 2014-June 2014

Jurisdiction: Superior Court of California, County of Los Angeles

Case Number: SC111290

Counsel: Cheong, Denove, Rowell & Bennett

Nature of Suit: Negligence

## • Inter Partes Review of U.S. Patent No. 8,466,795 | Feb 2014-July 2014

Jurisdiction: U.S. Patent and Trademark Office

Case Number: IPR2014-00670

Counsel: Pillsbury Winthrop Shaw Pittman LLP (ZTE Corporation)

Nature of Suit: Patent

#### • Certain Wireless Devices, Including Mobile Phones And Tablets II | Feb 2014-July 2014

Jurisdiction: U.S. International Trade Commission

Case Number: 337-TA-905

Counsel: Pillsbury Winthrop Shaw Pittman LLP (ZTE Corporation)

Nature of Suit: Patent

## • Pragmatus Mobile, LLC v. ZTE Corporation | Feb 2014-July 2014

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 1:14-cv-00443

Counsel: Pillsbury Winthrop Shaw Pittman LLP

## Intellectual Ventures, LLC v. AT&T Mobility, LLC, et al.

Intellectual Ventures, LLC v. T-Mobile USA, Inc., et al.

Intellectual Ventures, LLC v. Nextel Operations, Inc., et al.

## Intellectual Ventures, LLC v. United States Cellular Corporation | Oct 2013-May 2015

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 1:12-cv-00193, 1:13-cv-01631, 1:13-cv-01636, 1:13-cv-01637,

1:13-cv-01634, 1:13-cv-01635, 1:13-cv-01632, 1:13-cv-01633

Counsel: Dechert LLP Nature of Suit: Patent

## • Front Row Technologies, LLC v. NBA Media Ventures, LLC, et al. | Oct 2013 – July 2016

Jurisdiction: U.S. District Court for the District of New Mexico

Case Number: 1:13-cv-01153 Counsel: Shore Chan DePumpo LLP

Nature of Suit: Patent

## Nokia Corporation and Nokia Inc. v. HTC Corporation and HTC America, Inc. | Dec 2013 – Feb 2014

Jurisdiction: U.S. District Court for the District of Delaware Case Number: 1:12-cv-00549, 1:12-cv-00550, 1:12-cv-00551

Counsel: Desmarais LLP Nature of Suit: Patent

## · Certain Portable Electronic Communications Devices,

## Including Mobile Phones and Components Thereof | Aug 2013-Feb 2014

Jurisdiction: U.S. International Trade Commission

Case Number: 337-TA-885

Counsel: Desmarais LLP (Nokia Corp.)

Nature of Suit: Patent

## SecurityBase.com v. <u>Jeffrey Essick, et al.</u> | Aug 2013 – June 2015

Jurisdiction: Superior Court of California, County of Orange

Case Number: 30-2012-00546106 Counsel: Younesi & Yoss, LLP

Nature of Suit: Copyright and Trade Secret

## • Nokia Corp. and Intellisync Corp. v. HTC America, Inc., and Exedea, Inc. | Feb 2013-May 2013

Jurisdiction: U.S. District Court for the District of Delaware

Case Number: 1:12-cv-00549, 1:12-cv-00550

Counsel: Desmarais LLP Nature of Suit: Patent

## · Certain Electronic Devices, Including Mobile Phones

#### and Tablet Computers, and Components Thereof | Feb 2013-May 2013

Jurisdiction: U.S. International Trade Commission

Case Number: 337-TA-847

Counsel: Desmarais LLP (Nokia Corp.)

Nature of Suit: Patent

#### • Essociate, Inc. v. Azoogle.com, Inc. and Epic Media Group, Inc. | Nov 2012-Oct 2013

Jurisdiction: U.S. District Court for the Western District of Wisconsin

Case Number: 3:11-cv-00727 Counsel: Newman DuWors, LLP

## • John Doe v. Passageway School | Oct 2012-Dec 2012

Jurisdiction: Superior Court of California, County of Ventura

Case Number: 2012-00418623 Counsel: Stone & Hiles, LLP Nature of Suit: Negligence

# • Essociate, Inc. v. Neverblue Media, Inc. | Sept 2012–July 2013

Jurisdiction: U.S. District Court for the Central District of California

Case Number: 2:12-cv-08455 Counsel: Newman DuWors, LLP

Nature of Suit: Patent

## • Porto Technology Co., Ltd. v. Cellco Partnership d/b/a Verizon Wireless | Sept 2012-Feb 2014

Jurisdiction: U.S. District Court for the Eastern District of Virginia

Case Number: 3:12-cv-00678, 3:13-cv-00265

Counsel: Fox Rothschild LLP

Nature of Suit: Patent

## • Flashpoint Technology, Inc. v. ZTE Corporation | Aug 2012-Mar 2013

Jurisdiction: U.S District Court for the District of Delaware

Case Number: 12-cv-00649 Counsel: Goodwin Procter LLP

Nature of Suit: Patent

## Certain Electronic Imaging Devices | Aug 2012–Mar 2013

Jurisdiction: U.S International Trade Commission Case Number: 337-TA-850 (ZTE Corporation)

Counsel: Goodwin Procter LLP

Nature of Suit: Patent

## • MobileMedia Ideas, LLC v. HTC Corporation and HTC America, Inc. | July 2012-May 2013

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 2:10-cv-00112 Counsel: Desmarais LLP Nature of Suit: Patent

#### Golden Archer Investments, LLC v. SkyNet Financial Systems, LLC | July 2012 – Dec 2012

Jurisdiction: U.S. District Court for the Southern District of New York

Case Number: 1:11-cv-03673

Counsel: Goldman Ismail Tomaselli Brennan & Baum LLP

Nature of Suit: Breach of Contract

## • Inter Partes Reexamination of U.S. Patent No. 7,702,669 | May 2012 – July 2012

Jurisdiction: U.S. Patent and Trademark Office

Case Number: 95/001.844

Counsel: Hickman Palermo Truong Becker Bingham Wong LLP (RingCentral, Inc.)

Nature of Suit: Patent

## • Denise Black v. Prowess, Inc. | Mar 2012-May 2012

Jurisdiction: State of New York, Supreme Court, County of Ontario

Case Number: 0102070/2009

Counsel: Smith, Sovik, Kendrick & Sugnet, PC

Nature of Suit: Breach of Contract

• Essociate, Inc. v. Direct ROI, LLC | Mar 2012 – June 2012

Jurisdiction: U.S. District Court for the Central District of California

Case Number: 2:10-cv-02107, 8:12-cv-00444

Counsel: Newman DuWors, LLP

Nature of Suit: Patent

• EchoStar Technologies, Corp. v. TiVo Inc. and Humax USA, Inc. | Mar 2011-Apr 2011

Jurisdiction: U.S. District Court for the Eastern District of Texas

Case Number: 5:05-cv-00081 Counsel: Morrison & Foerster, LLP

Nature of Suit: Patent

# **Journal and Magazine Articles**

- Mahdi Eslamimehr, George Edwards, and Mohsen Lesani | 2017
   Efficient Detection and Validation of Atomicity Violations in Concurrent Programs Journal of Systems & Software
- Yuriy Brun, Jae young Bang, George Edwards, and Nenad Medvidovic | 2015
   Self-Adapting Reliability in Distributed Software Systems IEEE Transactions on Software Engineering
- Chris A. Mattmann, Nenad Medvidovic, Sam Malek, George Edwards and Somo Banerjee | 2012
   A Middleware Platform for Providing Mobile and Embedded Computing Instruction to Software Engineering
   Students IFFE Transactions on Education
- Nenad Medvidovic, Hossein Tajalli, Joshua Garcia, Yuriy Brun, Ivo Krka, and George Edwards | 2011
   Engineering Heterogeneous Robotics Systems: A Software Architecture-Based Approach IEEE Computer
- Nenad Medvidovic and George Edwards | 2010
   Software Architecture and Mobility: A Roadmap Journal of Systems and Software (JSS): Special Issue on Software Architecture and Mobility
- Nenad Medvidovic, Hossein Tajalli, Joshua Garcia, Yuriy Brun, Ivo Krka, George Edwards, Marija Mikic Rakic, Sam Malek, and Gaurav Sukhatme | 2010
- **An Architecture-Driven Software Mobility Framework** Journal of Systems and Software (JSS): Special Issue on Software Architecture and Mobility
- George Edwards, Chiyoung Seo, and Nenad Medvidovic | 2008
   Model Interpreter Frameworks: A Foundation for the Analysis of Domain-Specific Software Architectures –
  Journal of Universal Computer Science (JUCS): Special Issue on Software Components, Architectures and Reuse
- Aniruddha Gokhale, Krishnakumar Balasubramanian, Jaiganesh Balasubramanian, Arvind Krishna, George T. Edwards, Gan Deng, Emre Turkay, Jeffrey Parsons, and Douglas C. Schmidt | 2005
- Model-Driven Middleware: A New Paradigm for Deploying and Provisioning Distributed Real-time and Embedded Applications Elsevier Journal of the Science of Computer Programming: Special Issue on Model Driven Architecture

## **Conference Papers**

• Mahdi Eslamimehr, George Edwards | December 2015

## **End-to-End Cross-Language Test Case Generation for Web Applications**

Proceedings of the 9th EAI International Conference on Performance Evaluation Methodologies and Tools

• Christoph Dorn, George Edwards, Nenad Medvidovic | September 2012

# Analyzing Design Tradeoffs in Large-scale Socio-Technical Systems through Simulation of Dynamic Collaboration Patterns

Proceedings of the 20th International Conference on Cooperative Information Systems (CoopIS)

• George Edwards, Nenad Medvidovic, Yuriy Brun | August 2012

## Automated Analysis and Code Generation for Domain-Specific Models

Proceedings of the Joint 10th Working IEEE/IFIP Conference on Software Architecture & 6th European Conference on Software Architecture (WICSA/ECSA)

• George Edwards, Yuriy Brun, Nenad Medvidovic | November 2011

#### Isomorphism in Model Tools and Editors

Proceedings of the 26th IEEE/ACM International Conference on Automated Software Engineering (ASE)

• Yuriy Brun, George Edwards, Jae Young Bang, Nenad Medvidovic | June 2011

#### Smart Redundancy for Distributed Computation

Proceedings of 31st International Conference on Distributed Computing Systems (ICDCS)

• Hossein Tajalli, Joshua Garcia, George Edwards, Nenad Medvidovic | September 2010

## PLASMA: A Plan-based Layered Architecture for Software Model-driven Adaptation

Proceedings of the 25th IEEE/ACM International Conference on Automated Software Engineering (ASE)

• Jae Young Bang, Daniel Popescu, George Edwards, Nenad Medvidovic, Naveen Kulkarni, Girish M. Rama, Srinivas Padmanabhuni | May 2010

#### CoDesign - A Highly Extensible Collaborative Software Modeling Framework

Research Demonstrations Track, Proceedings of the ACM/IEEE 32nd International Conference on Software Engineering (ICSE)

• Ivo Krka, George Edwards, Yuriy Brun, Nenad Medvidovic | August 2009

## Synthesizing Partial Component-Level Behavior Models from System Specifications

Proceedings of the 7th Joint Meeting of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)

Joshua Garcia, Daniel Popescu, George Edwards, and Nenad Medvidovic | June 2009

## Toward a Catalogue of Architectural Bad Smells

Proceedings of the 5<sup>th</sup> International Conference on the Quality of Software Architectures (QoSA)

• Ivo Krka, George Edwards, Yuriy Brun, and Nenad Medvidovic | May 2009

#### From System Specifications to Component Behavioral Models

New Ideas and Emerging Results Track, Companion Volume of the 31st International Conference on Software Engineering (ICSE)

• Joshua Garcia, Daniel Popescu, George Edwards, and Nenad Medvidovic | March 2009

#### **Identifying Architectural Bad Smells**

Proceedings of the 13<sup>th</sup> European Conference on Software Maintenance and Reengineering (CSMR)

• Steve Mastrianni, David Bantz, Terrence Buechner, Tom Chefalas, George Edwards, Song Jinho, Dong Jun Lan, Gary Leonardi, Leslie Liu, Randy Moulic, Dennis G. Shea, Andrew Wyskida | October 2008

## BlueStar: Managed Services for Enterprise Mobility

Proceedings of the IEEE International Conference on e-Business Engineering (ICEBE)

• George Edwards, Leslie S. Liu, and Randy Moulic | October 2008

## Proxima: A Mobile Augmented-Image Search System

Proceedings of the ACM International Conference on Multimedia (ACMMM)

George Edwards and Nenad Medvidovic | September 2008

## A Methodology and Framework for Creating Domain Specific Development Infrastructures

Proceedings of the 23<sup>rd</sup> IEEE ACM International Conference on Automated Software Engineering (ASE)

Chiyoung Seo, George Edwards, Sam Malek, and Nenad Medvidovic | February 2008

# A Framework for Estimating the Impact of a Distributed Software System's Architectural Style on its Energy Consumption

Proceedings of the Working International Conference on Software Architecture (WICSA)

• George Edwards, Chiyoung Seo, and Nenad Medvidovic | August 2007

#### Construction of Analytic Frameworks for Component-Based Architectures

Proceedings of the Brazilian Symposium on Software Components, Architectures and Reuse (SBCARS)

• Gan Deng, Ming Xiong, Aniruddha Gokhale, and George Edwards | May 2007

# Evaluating Real-time Publish/Subscribe Service Integration Approaches in QoS-enabled Component Middleware

Proceedings of the 10<sup>th</sup> IEEE International Symposium on Object-oriented Real-time Distributed Computing (ISORC)

• George Edwards, Sam Malek, and Nenad Medvidovic | March 2007

## Scenario-Driven Dynamic Analysis of Distributed Architectures

Proceedings of the 10<sup>th</sup> International Conference on Fundamental Approaches to Software Engineering (FASE)

- George Edwards, Gan Deng, Douglas C. Schmidt, Anirudda Gokhale, and Balachandran Natarajan | October 2004
   Model-Driven Configuration and Deployment of Component Middleware Publisher/Subscriber Services
   Proceedings of the 3<sup>rd</sup> ACM International Conference on Generative Programming and Component Engineering (GPCE)
- George Edwards, Douglas C. Schmidt, Aniruddha Gokhale, and Bala Natarajan | April 2004
   Integrating Publisher/Subscriber Services in Component Middleware for Distributed Real-time and Embedded Systems

Proceedings of the 42<sup>nd</sup> Annual ACM Southeast Conference (ACMSE)

## **Workshop Papers**

- Arman Shahbazian, George Edwards, Nenad Medvidovic | May 2016
   An End-to-End Domain Specific Modeling and Analysis Platform
   8th Workshop on Modelling in Software Engineering (MiSE)
- Chiyoung Seo, George Edwards, Daniel Popescu, Sam Malek, Nenad Medvidovic | August 2009
   A Framework for Estimating the Energy Consumption Induced by a Distributed System's Architectural Style
   8th Workshop on Specification and Verification of Component-Based Systems (SAVCBS)

 George Edwards, Joshua Garcia, Hossein Tajalli, Daniel Popescu, Nenad Medvidovic, Gaurav Sukhatme, and Brad Petrus | May 2009

## Architecture-Driven Self-Adaptation and Self-Management in Robotics Systems

Proceedings of the Workshop on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)

- Ivo Krka, Leslie Cheung, George Edwards, Leana Golubchik, Nenad Medvidovic | June 2008
   Architecture-Based Software Reliability Estimation: Problem Space, Challenges, and Strategies
   Proceedings of the Workshop on Architecting Dependable Systems (WADS)
- George Edwards, Chiyoung Seo, Daniel Popescu, Sam Malek, Nenad Medvidovic | November 2007
   Self-\* Software Architectures and Component Middleware in Pervasive Environments
   Proceedings of the 5<sup>th</sup> International Workshop on Middleware for Pervasive and Ad-Hoc Computing (MPAC)
- Chiyoung Seo, Sam Malek, George Edwards, Daniel Popescu, Nenad Medvidovic, Brad Petrus, and Sharmila Ravula | May 2007

Exploring the Role of Software Architecture in Fault-Tolerant and Dynamic Pervasive Systems

Proc. of 1st Workshop on Software Engineering of Pervasive Computing Applications, Systems and Environments

## **Book Chapters**

Ivo Krka, George Edwards, Leslie Cheung, Leana Golubchik, and Nenad Medvidovic | 2009
 A Comprehensive Exploration of Challenges in Architecture-Based Reliability Estimation
 Architecting Dependable Systems 6, R. de Lemos, J.-C. Fabre, C. Gacek, F. Gadducci, M. ter Beek (Eds.)

## **Posters And Demonstrations**

- BlueStar Mobile Management Services
   IBM Research Technology Fair | June 2008
- The Extensible Tool-chain for Evaluation of Architectural Models

  USC Center for Software and Systems Engineering Convocation | October 2006
- A Model-Driven Framework for Architectural Evaluation of Mobile Software Systems
   UCI Institute for Software Research Forum | April 2006

# **Invited Talks**

- Metamodeling-Enabled Model-Checking for Complex Systems
   Systems Engineering Research Center (SERC) Annual Research Review | November 2010
- XTEAM: Automated Synthesis of Domain-Specific Code Generators

  Northrop Grumman Technology Day Research Showcase, Information Systems Track | May 2010
- Domain-Specific Model Analysis and Code-Generation Frameworks
   Ground Systems Architecture Workshop (GSAW), Architecture-Centric Evolution (ACE) Working Group | March 2010
- Automated Analysis and Code Generation for Domain-Specific Models
   USC Computer Science Department Annual Research Review | March 2010
- Automated Analysis and Code Generation for Domain-Specific Models
   USC Center for Software and Systems Engineering Annual Research Review | March 2010

Model-Driven Analysis Frameworks for Embedded Systems

USC Center for Software and Systems Engineering Annual Research Review | March 2009

· Creating Domain-Specific Development Infrastructures

USC Center for Software and Systems Engineering Annual Research Review | March 2008

Weighing Architectural Trade-offs with XTEAM

USC Center for Software and Systems Engineering Annual Research Review | February 2007

# **Technical Reports**

• George Edwards, Yuriy Brun, and Nenad Medvidovic | August 2010

### Automated Analysis and Code Generation for Domain-Specific Models

Technical Report USC-CSSE-2010-517, Center for Software and Systems Engineering, University of Southern California

George Edwards and Nenad Medvidovic | July 2009

### Model Interpreter Frameworks

Technical Report USC-CSSE 2009-514, USC Center for Software and Systems Engineering, Center for Software and Systems Engineering, University of Southern California

George Edwards and Nenad Medvidovic | May 2009

## A Highly Extensible Simulation Framework for Domain Specific Architectures

Technical Report USC-CSSE-2009-511, Center for Software and Systems Engineering, Univ. of Southern California

Yuriy Brun, George Edwards, and Nenad Medvidovic | May 2009

## Injecting Robustness into Autonomic Grid Systems

Technical Report USC-CSSE-2009-510, USC Center for Software and Systems Engineering, University of Southern California

# **Patent Applications**

Method and Apparatus for Simulation of Domain-Specific Models

U.S. Provisional Patent Application 61/513,357, filed July 29, 2011. (abandoned)

· Extensible Collaborative Software Modeling

U.S. Patent Application 13/271,008, filed October 11, 2011. (abandoned)

## **Honors and Awards**

2008 USC Computer Science Outstanding Student Research Award

Awarded each year for exceptional research achievement by a graduate student in computer science.

• Annenberg Graduate Fellowship | August 2007

Supports highly qualified graduate students to conduct cutting-edge communication and digital media research and advance important new programs in the communications arena.

• USC Viterbi School of Engineering Dean's Doctoral Fellowship | May 2004

Supports world-class students for four years in the pursuit and publication of research leading to the doctoral degree.

· Vanderbilt Summa Cum Laude Graduate | August 2003

Awarded to graduates whose grade point average equals or exceeds that of the top 5 percent of the previous year's graduating seniors.

- NSF Research Experiences for Undergraduates Grant | June 2003
   Supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation.
- Vanderbilt Dean's List with High Honors | Dec 2000, May '01, Dec '01, May '02, Dec '02, May '03
   Recognizes outstanding academic performance in a semester. Students are named to the Dean's List when they earn a
   grade point average of at least 3.500.
- Vanderbilt School of Engineering Merit Scholarship | May 2000
   Awarded to approximately 5 percent of all applicants based on exceptional accomplishment and high promise in intellectual endeavors.
- National Merit Scholar | May 2000
   Awarded for academic achievement to 8,200 high school students each year out of 1.5 million entrants.

# **Teaching**

Lecturer, CSCI 102-Data Structures | Fall 2012

Lecturer, CSCI 568-Requirements Engineering | Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016

Teaching Assistant, Infosys Intensive Course on Software Architecture | December 2009

Guest Lecturer, CSCI 589-Software Engineering for Embedded Systems | Fall 2007, Fall 2008

Guest Lecturer, CSCI 377-Introduction to Software Engineering | Fall 2007, Fall 2008, Fall 2009

Guest Lecturer, SAE 599-Model-Driven Systems Architecture | Summer 2007, Spring 2008

Teaching Assistant, CSCI 589-Software Engineering for Embedded Systems | Fall 2006

# **Research Community Service**

- Reviewer for the **Journal of Systems and Software**, Elsevier | 2010–2013
- Reviewer for IEEE Transactions on Software Engineering (TSE) | 2010–2012
- Reviewer for the **50th International Conference on Objects, Models, Components, Patterns (TOOLS Europe)**Prague, Czech Republic | May 28–June 1, 2012
- Program Committee Member for the Research in Applied Computation Symposium (RACS)
   Miami, FL | November 2–5, 2011
- Reviewer for the Workshop on Software Engineering for Adaptive and Self-Managing Systems (SEAMS) Cape Town, South Africa | May 3–4, 2010
- Reviewer for the **24th IEEE/ACM International Conference on Automated Software Engineering (ASE)** Auckland, New Zealand | November 1–20, 2009
- Reviewer for DSN 2009 Workshop on Architecting Dependable Systems (WADS), Lisbon, Portugal | June 29, 2009
- Reviewer for Architecting Dependable Systems 6, Springer Publishing | 2009
- Reviewer for the 6th IEEE International Conference on Autonomic Computing (ICAC) | June 15–19, 2009
- Reviewer for IEEE Software Special Issue: Domain-Specific Languages & Modeling | July/August, 2009

- Reviewer for the **23rd International Conference on Automated Software Engineering (ASE)** L'Aquila, Italy | Sept. 15–19, 2008
- Reviewer for the Working IEEE/IFIP Conference on Software Architecture (WICSA) Vancouver, Canada | February 18–21, 2008
- Program Committee Member for the **Institute for Software Research (ISR) Graduate Student Research Symposium (GSRS),** Irvine, CA | June 1, 2007
- Reviewer for the **3rd International Conference on the Quality of Software Architectures (QoSA)**Boston, MA | July 12–13, 2007
- Reviewer for the **10th International ACM SIGSOFT Symposium on Component-Based Software Engineering (CBSE),** Boston, MA | July 9–11, 2007
- Reviewer for the First IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO) Boston, MA | July 9–11, 2007
- Reviewer for the Second Workshop on Sharing and Reusing Architectural Knowledge Architecture, Rationale, and Design Intent (SHARK/ADI), Minneapolis, MN | May 19–20, 2007
- Reviewer for the Workshop on Tools, Operating Systems and Programming Models for Developing Reliable Systems (TOPMoDelS), Long Beach, CA | March 26–30, 2007

## **Professional Associations**

- Member, Association for Computer Machinery (ACM) and ACM Special Interest Group on Simulation and Modeling
- Member, IEEE Computer Society