David Dietrich

1735 Woodland Ave 35
East Palo Alto, CA 94303

650-300-9169
david.drich@gmail.com

Profile

Self-directed learner interested in obtaining a software engineering position in a fast-paced and challenging environment. Strong technical skills. Experience taking the lead and driving cross-site projects to completion. Master's degree in Computer Science.

Work Experience

- **Google** — Mountian View, CA
  Google Maps – Software Engineer, Tools and Infrastructure — *Jan. 2014 - Current*
  - Designed, built, and maintained the test infrastructure and conformance test suite for Android Auto. Tests were shipped to automotive OEMs for verification of their systems.
  - Lead the Developer Velocity cross-site team, deciding quarterly goals and onboarding new team members in Sydney.
  - Designed and built testing framework for maintaining navigation quality of Google Maps for Android.
  - Performed significant refactoring to improve compile time and code readability of Google Maps for Android.
  - Extensive experience collecting, analyzing, and presenting test performance and test flakiness data.
- **University of Waterloo** — Waterloo, ON
  Research Assistant — *Sept. 2011 - August 2013*
  - Extended a modelling-language translation and verification tool written in the Turing Extender Language.
  - Examined production-grade automotive requirements and created a general pattern for specifying the behaviour of features.
  - Implemented several module templates in Rational DOORS.
  - Examined the AUTOSAR 4.0 specification and created a report cataloguing design constraints and the use of variability in the specification.
  - Presented research to industrial partners and visiting researchers.
- **University of Waterloo** — Waterloo, ON
  Teaching Assistant — *Sept. 2011 - May 2013*
  - Assisted students with assignments and lead student groups during course projects.
- **University of Alberta** — Edmonton, AB
  Web Developer — *May 2011 - Sept. 2011*
  - Created a web-based information system using PHP, HTML, and Javascript for storing, modifying, and searching faculty profiles at the University of Alberta.
- **Energy Navigator Inc.** — Calgary, AB
  Junior Software Developer — *May 2009 - Aug. 2010*
  - Wrote a customizable XSLT plugin for exporting customer data.
  - Created developer documentation for our application-server's public API.

- Designed and built a data importer with a Microsoft Excel front-end that communicates with the application through an Excel interop library.
- Refactored several major database queries, leading to significant performance improvements.
- Primarily worked in C#, but also in VB.NET, Java, and PL/SQL.

Education

- **University of Waterloo** — Waterloo, ON
  Master of Mathematics (Computer Science) — *2011 - 2013*
  - Thesis Topic: A Mode-Based Behaviour Pattern for Feature Requirements, and a Generic Feature Interface

    Created a design pattern for specifying automotive-feature requirements, and an interface for features. This involved examining and extracting behavioural requirements from feature requirements provided by General Motors. Performed a case study to evaluate the applicability of the pattern and a user study to evaluate the human-oriented aspects of the pattern.

  - Final Average: **89/100**
  - Date of Graduation: **September 2013**
- **University of Alberta** — Edmonton, AB
  B.Sc. Computer Science (Specialization Option) — *2006 - 2011*
  - Final GPA: **3.6/4.0**
  - Date of Graduation: **April 2011**

Publications

1. **D. Dietrich** and J. M. Atlee. A Mode-Based Pattern for Feature Requirements, and a Generic Feature Interface. *In Proceedings of Requirements Engineering, 2013. (18% acceptance rate)*
2. **D. Dietrich** and J.M. Atlee. A Pattern for Structuring the Behavioural Requirements of Features of an Embedded System. *In Proceedings of Requirements Patterns, 2013.*
3. **D. Dietrich**, P. Shaker, J. Gorzny, J. M. Atlee, and D. Rayside. Feature Interaction Analysis of the Feature-Oriented Requirements-Modelling Language Using Alloy. *In Proceedings of Model-Driven Engineering, Verification and Validation, 2012. (35% acceptance rate)*
4. O. Kononenko, **D. Dietrich**, R. Sharma, and R. Holmes. Automatically Locating Relevant Programming Help Online. *In Proceedings of Visual Languages and Human-Centric Computing, 2012. (28% acceptance rate)*
5. **D. Dietrich** and J. M. Atlee. Variability and Constraints in AUTOSAR. *Technical Report submitted to General Motors, 2012.*

Posters

1. **D. Dietrich** and J.M. Atlee. A Mode-Based Pattern for Feature Requirements, and a Generic Feature Interface. *Poster presented at the Network for the Engineering of Complex Software-intensive Systems for Automotive Systems Workshop, 2013.*

2. **D. Dietrich** and J. M. Atlee. Detecting Feature Interactions in FORML using Alloy. *Poster presented at the Network for the Engineering of Complex Software-intensive Systems for Automotive Systems Workshop, 2012.*

3. **D. Dietrich** and J. M. Atlee. Translating the Feature Oriented Requirements Modelling Language to Alloy. *Presented at the Model-Driven Engineering, Verification and Validation (MoDeVVa) Workshop, 2012.*

Awards

Queen Elizabeth Scholarship ($5,000)	2012
Graduate Experience Scholarship ($1,000)	2011, 2012, 2013
Amdahl Academic Achievement Scholarship ($1,750)	2009
Jason Lang Scholarship ($1,000)	2007, 2008, 2009
First Class Honors	2007, 2008, 2009