
Education

Purdue University

Bachelor of Science in Computer Science
focus in Systems and Software Engineering

December 2016

Skills

Technical

- **C:** Strong background in writing system level and embedded applications in C. Implemented control logic for autonomous agricultural machines. Implemented a specialized FTP server for Qualcomm modems. Experience working with C++. Experience writing embedded applications for Raspberry Pi, Arduino, LEGO EV3 and others.
- **Build tools:** Experience with Maven, Make, and Ant. Some experience with CMake.
- **Compilers:** Comprehensive experience in compilers and programming language design. Built a model compiler to generate Java from xtUML models.
- **Operating systems:** Experience with several different operating systems including Windows and Unix systems. Some experience with other hardware specific real time operating systems and embedded targets.
- **Robotics:** Experience working on robotic applications with a mix of hardware, firmware, and software. Experience with ROS and developing for embedded and high level systems.
- **Version Control:** Experience with git, subversion, and perforce in real software teams, and familiar with online source hosting such as Github and Bitbucket.
- **Java:** Firm understanding of object oriented programming in Java.
- **Python:** Experience using Python for scripting applications. Experience building web applications in Python using the Flask microframework.
- **Amazon Web Services:** Knowledge of AWS services such as EC2, S3, DynamoDB, Lambda, and others and experience using them in production applications.
- **SQL:** Practical experience using relational databases in applications.
- **Team tools:** Used Hangouts, JIRA, git, subversion, Skype, Redmine, Join.me, Google Drive, and Outlook in real world employment environments.
- **xtUML:** Knowledge and experience in the Shlaer-Mellor method of systems analysis. Background in building and debugging applications in xtUML.
- **BridgePoint:** Deep understanding of the BridgePoint xtUML modeling editor, verifier and model compilers.

Leadership

- Engineering manager (Rogo)
 - *Led a team of 8 engineers to define priorities and desired results and to foster accountability*
 - *Mix of mechanical engineering, electrical engineering, software engineering team members, including working with external contractors*
 - *Like to get hands on with the product and team members and "get dirty out in the field" to assure quality.*
- Engineering project lead at One Fact (Project Primus)
 - *Drove requirements specification, prototyping and proposals*
 - *Performed in depth analysis and provided sizing estimates for work contract*
 - *Designed and implemented features and test cases to satisfy the requirements specification*
 - *Worked on a delivery schedule and communicated with customers*
- Undergrad Lecturer for Purdue CS190 Tools course
 - *Primary lecturer for CS190 Tools at Purdue University (Fall 2015). 400+ students*
 - *Cover topics such as linux, bash, vim, git, eclipse, debugging, etc*
 - *Developed much of the course material including labs, lecture slides, and demos*
- Undergraduate Student Board of Computer Science (Purdue University)
 - *Member Spring 2015 - December 2016*
 - *Organize events, programs for student success, manage tutoring services, work with*

Experience

Employment

Rogo Ag, LLC (rogoag.com)
Software Engineer, Engineering Manager

Wolcott, IN April 2019 - present

- Independently architected and built software systems for autonomous soil sampling
- Built and tested RTK/INS based navigation systems for skid steer and wheeled robots
- Developed web applications and backend services to meet business requirements
- Designed requirements and project plans to drive progress by understanding business needs and applying engineering solutions

One Fact, Inc (onefact.net)
Chief Software Architect

Lafayette, IN January 2016 - April 2019

- Led the One Fact engineering team working on the BridgePoint xtUML tool
- Testing and developing features in model compilers and editor
- Building specialized model compilers for MASL conversion and export

Qualcomm Technologies, Inc (qualcomm.com)
Interim Engineering Intern

Boulder, CO May 2015 - August 2015

- Worked for modem data services on the protocols team
- Implemented a specialized FTP server for testing data throughputs on various interfaces
- Worked extensively in testing on target builds running Android

Tavel/Academic

- Three time presenter at the xtUML Days modeling conference (2017 Linköping, Sweden; 2018 Copenhagen, Denmark, 2019 Cheltenham, UK)
- Presented a technology demo at the 2018 MODELS conference in Copenhagen, Denmark
- Delivered a software training course twice in Cheltenham, UK (2016, 2017)

Projects

- ciera model compiler
 - *Working on a model compiler to generate Java for xtUML application models*
 - *Used to generate an application deployable to AWS*
 - *Compiler is built with itself*
- Arduino/RPi GPS Watch example
 - *Ported an xtUML application to run on both Raspberry Pi and Arduino with identical hardware*
- BridgePoint
 - *Core contributor to the BridgePoint project*

References

Available on request.