

# GARY SCHULKE

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**Portfolio:** <https://gary-schulke.github.io/>

## SENIOR SOFTWARE ENGINEER

### Requirements Acquisition | Design, Integration, Test | Troubleshooter | Data Analytics

Expert in embedded and User Interface (UI) design and implementation. Detail-oriented problem solver, delivering superior product utilizing all phases of software development life cycle from requirements analysis to implementation, code review, and testing. Certified in data analysis and visualization with advanced skills in Python, VBA, and Pandas. Strong written and verbal communication skills to collaborate with remote and international software teams. A builder of relationships across engineering disciplines creating effective teams and producing a superior product.

- Requirements Analysis
- Data Cleaning and Visualization
- Root Cause Defect Analysis
- Object-Oriented Design (OOD)
- TCP and RS232 Communication
- Software Installation and Support

## TECHNICAL SKILLS

**Languages:** Java, Smalltalk, C++, C, JavaScript, Python, SQL, VBA, PERL, HTML, CSS  
**Packages:** Pandas, Flask, Matplotlib, SQLAlchemy, D3.js, Plotly.js, Leaflet.js, JTest, JUnit, Log4j  
**Databases:** Postgress, SQLite, MySQL, MongoDB  
**Platforms:** Windows 10, XP, Linux, QNX, Android, VAX / VMS  
**Interfaces:** TCP and RS232 serial communication, Serial Servers, Web APIs.  
**Design:** Object-Oriented Design (OOD), Structured Analysis Structured Design (SASD), Design Patterns  
**Version Control:** CVS, Git, Store, Rational ClearCase, Microsoft Source Safe, IBM Envy  
**SW Tools:** Eclipse, Visual Code, Visual Works, Visual Studio, Jupyter, ClearQuest, Rose, Tableau

## DATA ANALYSIS PROJECTS

### TriMet Transit System Analysis (<https://gary-schulke.github.io/Project2/index.html>)

Weather and TriMet, data were put together to create charts showing ridership with precipitation and ridership with cost. The interactive map shows ridership for each of the four sample periods. Results showed that bus ridership was less affected by precipitation than either of the rail systems. It also showed that precipitation does affect the number of riders, however, other factors need to be considered to get a complete analysis. Cost data shows that bus routes servicing rail stations are the most expensive per passenger.

- JavaScript, D3, Leaflet, Plotly, Bootstrap, GeoJSON, JSON, Python, Pandas, VBA

## PROFESSIONAL EXPERIENCE

**LAM RESEARCH CORPORATION**, Tualatin, OR

April 2013 – March 2019

### Senior Software Engineer

Led software development for the emerging process module. Supported frequent changes to hardware and its impact on software requirements, algorithms, and implementation. Developed software for Continuous Improvement Projects (CIP). Supported changes to process control and hardware control through the entire software life cycle.

- Organized three major software/hardware upgrades for onsite lab tools, preparing products for customer delivery.
- Created software unit testing procedures and performed integration testing, finding defects early in the software life cycle.
- Provided on-going support for external, internal, and manufacturing customers through training and defect resolution.
- Trained and mentored other team members on system framework and coding, user interface, debugging, and configuration development including software language programming standards.
- Unified software, electrical, and process engineers establishing clear requirements and project objectives.
- Solved challenging software and hardware communication issues troubleshooting commands and responses.
- Maximized system uptime providing error recovery, workarounds, and delivering solutions to complex problems.

**GENERAL DYNAMICS C4S**, Scottsdale, AZ

April 2007 – April 2012

**Staff Software Engineer**

Engineering Lead for Modeling and Simulation Group developing satellite ground control simulation software.

- Coded, tested, and delivered network messaging simulators using SIP, TLS, FTP, SSH, SNMP, and SSL communication protocols, supporting all system communication protocols.
- Developed an SSL-FIPS compliant secure network configuration loader, meeting system security requirements.
- Leveraged Commercial Off the Shelf (COTS) and Open Source Software (OSS), enhancing development speed and reducing test time.
- Executed Research and Development (R&D) project for Android mobile devices in secured environment, exploring new product opportunities.
- Delivered software requirements, design, and test procedure documentation in compliance with CMMI Level 5 processes, fulfilling prime contractor requirements.
- Recognized for meeting or exceeding all Modeling and Simulation Team objectives and outstanding simulator and training support.

**ADDITIONAL RELEVANT EXPERIENCE****NOVELLUS SYSTEMS INC**, Chandler, AZ, **Senior Software Engineer**

Led software team to on-schedule delivery of two major software releases. Coordinated software delivery, installation, and support at Asian and European customer locations.

- Directed project and task assignments for offshore contractors, aligning project assignments with resources for maximum productivity and decreasing problem reported to problem-solved cycle time.
- Designed and enhanced Graphic User Interfaces (GUI), producing an intuitive interface for English and non-English speaking customers.
- Created chemical demand interface, improving chemical handling efficiently and safely between factory facilities and establishing process hardware compliance with customer factory standards.

**EDUCATION**

**Bachelor of Science (BS), Computer Science**, University of New Mexico, Albuquerque, NM

– Minor in Mathematics

**Certificate in Data Visualization**, University of Oregon

**PROFESSIONAL DEVELOPMENT**

- **Developing Applications for the Java EE 6 Platform**, Oracle University
- **C++ For C Programmers**, Hands On Technology Transfer
- **Open Source Software Training**, General Dynamics Training Center
- **Object Oriented Architecture and Design**, Rational Inc.
- **Requirements Management with Use Cases**, Rational Inc.
- **Perfect Software Estimation**, Corvus International Inc.
- **Developing with ControlWORKS and Envy**, Adventa Control Technologies, Inc.
- **Overview of Cryptography**, General Dynamics Training Center
- **Engineering Activities on a COTS Based System**, General Dynamics Training Center