

Derek Maciel

🏠 dere.github.io github.com/dere

Education

Rutgers University

New Brunswick, NJ

B.S. IN COMPUTER SCIENCE

Expected: Winter 2018

- Courses: Computer Architecture, Systems Programming, Operating System Design
- Fall 2016 Mentor in the Rutgers USACS Computer Science Mentorship program

Experience

SIG: Susquehanna International Group

Philadelphia, PA

SOFTWARE DEVELOPMENT INTERN

Jun. 2017 — Aug. 2017

- Designed and implemented in C# a system for managing positions in financial instruments for a team of traders
- Wrote several scrapers and parsers to gather market data from various exchanges and import it into the application
- Heavily utilized Test-Driven Development and modular code design to reduce trading losses caused by bugs
- Collaborated closely with multiple teams and gathered trader feedback during the design process
- Project improves position analysis accuracy while saving an estimated 20-40 man-hours per month for the traders

Open System Solutions at Rutgers University

New Brunswick, NJ

STUDENT SYSTEMS PROGRAMMER

Jan. 2016 — Present

- Led a team of four to redesign and implement new key features in Go: The Rutgers URL Shortener
 - Organized meetings to brainstorm and triage new features and delegate tasks.
 - Designed and implemented a RESTful API using Flask-RESTful to interact with a new AngularJS front-end
 - Rewrote legacy MongoDB abstraction layer to use the popular Python MongoDB ODM MongoEngine
 - Extended so-called "all or nothing" user permission system to add additional permission levels
- Fixed critical bugs and added CSV exporting to a employee hours-tracking web app in Python using Flask and MySQL
- Developed a command-line app in Python using rsync to improve the Rutgers University Linux distribution mirrors
- Configured and maintained CentOS Linux and Solaris servers with Salt and Cobbler
- Utilized and extended open source software such as Koji and Mock to automate building RPM software packages
- Improved onboarding and training documentation for new employees

Skills

Languages Python, C, C#, JavaScript, HTML/CSS, Bash Shell Scripting

Tools/Frameworks Linux, Git, Flask, Salt, MySQL, MongoDB, Node.js, Phabricator, JIRA

Projects

AUTOS

Personal Project

[GITHUB.COM/DERE/AUTOS](https://github.com/dere/autos)

- A Unix-Inspired Toy Operating System for the x86 architecture written from scratch in C and assembly
- Currently on-going

Strawberry Bot

Personal Project

[GITHUB.COM/DERE/STRAWBERRYBOT](https://github.com/dere/strawberrybot)

- Music-playing bot for the voice chat program Discord, written in JavaScript using Node.js, deployed on Debian Linux
- Uses the Discord API and youtube-dl to accept YouTube song requests and stream them into the voice channel
- Plugin system allows functionality to be selectively disabled and allows users to extend the bot for other functions

Salt

Open Source Contributor

[GITHUB.COM/SALTSTACK/SALT](https://github.com/saltstack/salt)

- Reported and fixed a High Priority bug with RPM package installation (Pull Request #35119).