Matthew Dailis

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Available for part-time May 2020 and full-time August 2020

Experience

NASA Jet Propulsion Laboratory, Pasadena, CA – Curiosity Rover Software Co-op *July 2019 - Present*

- Developed tools to automate downlink assessment using an ElasticSearch data store
- Provided flight software and data mining support for anomaly investigations
- Tested and debugged a NOR flash memory based file system in simulator and in hardware
- Developed a patch for a software simulator to properly simulate operations on the NOR chip
- Organized, documented and maintained an organically grown web of python and bash scripts

Optimus Ride, Boston MA – Full Stack Web Co-op *July – December 2018*

- Designed and implemented an MVP for a scheduling application for a fleet of autonomous vehicles using Typescript/ReactJS backed by Express/Node, Scala Play and a Postgres database
- Developed a consistent software development and deployment workflow using Docker

Piaggio Fast Forward, Boston MA – Software Co-op *January – June 2017*

- Wrote modular programs in Python/C++ to develop features for a mobile robot using ROS on Unix
- Adapted a presentation pointer to be used naturally as a controller for the robot
- Implemented an algorithm to transform LIDAR data based on placement of mirrors using C++
- Designed an Operator Control Unit for managing a fleet using AngularJS/Web Sockets
- Organized and kept a fleet of robots operable while under concurrent development using Agile

Northeastern University, Boston MA – Tutor and Grader Spring 2019, *Fall 2017, Summer 2017, Fall 2016*

- Taught new computer science students about functional programming and software design
- Taught second-year students techniques for designing and analyzing algorithms
- Coached advanced students in compiler design and implementation techniques

SS8 Networks, San Jose, CA (remote) – Software Engineering Intern *August – December 2016*

- Collected and organized documentation on Network Software using Confluence, Jira, and Jive

NUTRONS (FIRST Robotics Team), Boston MA – Mentor *September 2015 – December 2017*

- Taught high school students Object-Oriented Programming in Java and Python
- Guided advanced students to adapt OpenCV Machine Vision algorithms for a competition robot

Computer Knowledge

Languages: Python, Java, Scala, Typescript + ReactJS, OCaml (Proficient) Bash, C, Rust, Scheme, Smalltalk, R (Familiar)

CM: Git (Proficient) SVN (familiar)

Database Systems: ElasticSearch (Proficient) SQL (Familiar)

Education

Northeastern University, Boston MA *September 2015 – Present*

College of Computer and Information Science

Candidate for a Bachelor of Science in Computer Science . . . . . **May 2020**

Candidate for a Master of Science in Computer Science (specialization Data Science) . . . . **August 2020**

Related Courses: Large Scale Parallel Data Processing, Programming Languages, Networks, Object Oriented Design, Compilers, Operating Systems, Theory of Computation, Algorithms, Group Theory, Probability and Statistics, Logic and Computation, Linguistics

Honors: National Merit Scholar, Honors Program, Dean's List GPA: 3.7/4.0

Universidad Carlos III de Madrid, Spain (Engineering Exchange student) *January – June 2018*

Related Courses: Operating Systems Design, Distributed Systems, Security Engineering, Software Development, Artificial Intelligence

Udacity Massive Open Online Classes *September 2011-May 2016*

Artificial Intelligence in Robotics, Differential Equations in Action, Introduction to Computer Vision

Projects

NEIRA Rowing Race Results Visualization *May 2016 – In Progress*

- Python web scraper sanitizes data from row2k.com to a local SQL database
- Creates directed graph using GraphViz library. See it in action at http://mattdailis.github.io/neira/

Interests

Classical guitar, Tang Soo Do, Robotics, Soccer, French, Russian, Spanish, Ham Radio. Physics