Jiahong Long

contact • j4long@ucsd.edu • (408) 307-8896
portfolio • linkedin.com/in/jiahonglong • github.com/j1ah0ng
mailing • 9085 Judicial Drive, Apt. 2507, San Diego, CA 92122
permanent • 3029 Mauricia Avenue, Santa Clara, CA 95051

Skills & Technologies

- Extensive experience with **`vim`**, **`git`**, **`bash`**/**`zsh`**, **`java`**/**`eclipse`**/**`intellij`**, **`c++`**, **`c`**, **`python`**, and **`rust`**
- Extensive experience with contributing to and building for Linux and POSIX environments
- Uses a **`debian`**/**`i3`** environment on a day-to-day basis
- Skilled with **`pandas`**, **`scikit-learn`**, **`numpy`**, **`scipy`**, and **`pytorch`** data processing libraries
- Exposure to **`x86`** and **`arm`** assembly, **`sqlite`**, **`sdl`** and Nvidia **`cuda`**
- Comfortable with the **`github`** collaboration system of PRs and issues
- Usage of Autodesk and Solidworks CAD/CAM software for mechanical design and CNC fabrication

Education & Coursework

University of California, San Diego / B.S. Computer Engineering @ Jacobs School of Engineering, B.S. Mathematics—Scientific Computation, **GPA 3.89** with honors
September 2019 - June 2023, La Jolla, CA

- Differential Equations, Linear Algebra, Vector Calculus, Signals and Systems (Statistics, Discrete Linear Systems in progress)
- Computer Architecture & Programming, Advanced Data Structures, Discrete Mathematics & Computational Theory (Algorithm Design & Analysis, SWE Techniques in progress)

University of California, Berkeley / Summer Sessions, **GPA 4.00**
June - August 2020, Berkeley, CA

- Data science and computation, statistical inference, data-driven system modeling (DATA 100)
- Real analysis: real numbers, sequence and series convergence, calculus (MATH 104; incomplete)

Experience & Projects

Personal projects @ github.com/j1ah0ng, leetcode.com/j1ah0ng
September 2018 - present

- Contributing to **`github.com/polybar/polybar`** to add functionality to the Linux desktop environment for recognising and displaying the status of network interfaces brought up on-the-fly (**`c++`**, **`sh`**)
- Contributing to **`github.com/nix-rust/nix`** to implement **`rust`** FFI bindings to syscalls such as **`eventfd`**
- Bringing up a **`rust`**-based robotics RTOS at **`github.com/m3rcuriel/hyperion`**
- Implementing **`libc/string.h`** functions in x86 assembly at **`github.com/achierius/aolc`**
- Solving Leetcode problems in a variety of languages (**`rust`**, **`c++`**, **`c`**, **`python`**, **`java`**)

UC San Diego Jacobs School of Engineering / Instructional Assistant
November 2020 - present, La Jolla, CA

- Developed and held review sessions for computer science and discrete mathematics courses to introduce students to formal and rigorous mathematical methods
- Helped to create equitable problem sets and grading criteria centered on important topics

Triton Unmanned Aerial Systems / Path Planning Automation Engineer
September 2019 - March 2020, UC San Diego

- Worked on implementing a dynamically responsive path-planning suite for unmanned autonomous aircraft using modern APIs such as **`zmq`**, on a **`rust`** and **`python`**-based FFI

Valkyrie Robotics / STEM mentor, Student Instructor, Director of Media
October 2017 - present, Cupertino, CA

- Performed statistical analysis on the consistency and accuracy of CNC machinery using simple *t*-tests
- Developed and taught a one-week summer camp curriculum to introduce middle school students to robotics and the engineering process
- Work closely with high school students to teach the CNC manufacturing process, including programming metal fabrication machines using G-Code