Ian McDonald

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EDUCATION

UC BERKELEY
Computer Science BA
Expected December 2018

LINKS

Github:// **iancmcdonald**
LinkedIn:// **iancmcdonald**

COURSEWORK

Data Structures • Algorithms • Computer Architecture • Software Engineering • Unix

SKILLS

PROGRAMMING LANGUAGES

- Java
- Python
- JavaScript
- SQL
- Ruby
- Bash Scripting
- HTML • CSS
- LaTeX

TOOLS/FRAMEWORKS/ETC

Experienced

- Linux
- AWS
- Node.js • Express
- Angular (2+)
- React Native
- Rails
- OpenCV
- Insight Segmentation and Registration Toolkit (ITK)

Familiar

C • Swift • iOS • React • MongoDB • TypeScript • Lisp

ORGANIZATIONS

OPEN COMPUTING FACILITY AT UC BERKELEY
Member - Board of Directors
- I help run Berkeley's all-volunteer student organization dedicated to free computing and open source software

TUTORING

UC BERKELEY COMPUTER SCIENCE DEPARTMENT
Tutor For
• Java (CS9G) •Python (CS9H) • Unix (CS9E)

EXPERIENCE

HUMAN-ASSISTIVE ROBOTIC TECHNOLOGIES
Software Engineering And Research Intern
May 2017 - September 2017 | Berkeley, CA

- I was the primary developer of the HART Automated MRI Segmentation and Analysis Framework (AMSAF)
- Developed software for 3D (mostly medical) image registration and segmentation solutions
- Instantiated and maintained the HART lab's computational servers

SKIVE IT, INC. | Software Engineering Intern
February 2017 – May 2017 | San Francisco, CA

- Wrote and integrated image and video processing and analytics software for the Skive It machine learning engine
- Initialized development on sound processing and analytics software
- Worked on application back end and maintained servers

TEACHING

UNIX SYSADMIN DECAL | Co-Instructor and Content Developer
Fall 2017 Semester | UC Berkeley

- Co-created and taught UC Berkeley's official student-run Unix sysadmin class
- Designed labs and course content covering Unix-like operating system structures, philosophy, utilities, conventions, and capabilities
- Taught students from Unix-land basics to instantiating and maintaining a Debian web server

RESEARCH

UNDER PROF RUZENA BAJCSY | Undergrad Research Assistant
October 2016 - Present | UC Berkeley

- Worked on software solutions to 2D and 3D image processing problems
- Collaborated with visiting UCSF Prof. Rahul Deo to develop automated echocardiogram segmentation software to partially automate the diagnosis of cardiac diseases

PROJECTS

BiaSearch - Primary Developer

- A single-page web app and public API based in natural language processing that allows users to fetch semantically similar articles from news sources across a range of biases
- Built with Node.js, Python, Express, MongoDB, Angular; running on AWS EC2

Automated MRI Segmentation and Analysis Framework - Primary Developer

- A Python/C++ framework which combines ITK, Elastix, and hyperparameter tuning with the aim to optimize the automated segmentation of medical MR images. This was developed primarily by me as an intern at the Human-Assistive Robotic Technologies lab.

CalFinder - Co-Developer (In Progress)

- A cross-platform mobile app which allows users to find optimal meals at nearby restaurants which satisfy their desired macronutrient and calorie ratios.
- Built with React Native