

Donald Pinckney

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<https://github.com/donald-pinckney/>

Overview Fourth-year student at UC Davis pursuing a B.S. in Computer Science and Engineering and a B.S. in Mathematics. In particular I enjoy the fields of machine learning, NLP, computer vision, and programming language design / theory / testing.
I am fluent in C / C++, Objective-C, Swift, Java and MATLAB. Recently I have been learning TensorFlow, Haskell, OCaml and Rust.

Education UC Davis – Planned B.S. in Computer Science and Engineering and B.S. in Mathematics by June 2018.
GPA of 3.93, each quarter thus far achieving the Engineering Dean's Honor List.
Regents Scholarship Recipient and University Honors Program Member.
Notable Classes: Programming Language Semantics (graduate course), Machine Learning (2 quarters), Computer Vision, Linguistic Analysis, Real Analysis (3 quarters), Abstract Algebra (3 quarters), Topology, and Probability Theory.

Experience April 2017 - Present: [Bounded Compiler Verification Research](#)
Currently I am collaborating with a postdoc, Qirun Zhang, to research methods for bounded compiler verification: that is, exercising a compiler through generated test cases up to a certain bounded size. We are not yet ready to publish a paper on our current work, but see <https://arxiv.org/pdf/1610.03148.pdf> for a closely related previous paper from our research group to get a flavor of the research.
Technologies used: Bison / Yacc, Perl

January 2017: [Winner of Best Educational Hack at HackDavis 2017](#)

Two team members and I developed a novel method for non-native English speakers to improve their writing ability at a college level. Users practice essay writing while our software provides intelligent feedback using natural language processing. See: <https://devpost.com/software/writeright>

Technologies used: Node.js, C++, HTML / CSS

March 2017: [Wrangell - A Data Wrangling DSL Implemented in Haskell](#)

For a graduate course, Programming Language Semantics, two classmates and I recognized an existing problem in data science and machine learning: in practice, most data sets are extremely messy and generally need pre-processing before actual machine learning work can start. We designed and implemented a novel language to assist with reading and transforming data sets. We devised the formal semantics ourselves, and coded an interpreter in Haskell. See <https://github.com/knalbant/wrangell> for more information.

June 2016 - September 2016, June 2017 - September 2017: [AppKit Intern, at Apple Inc.](#)

AppKit team member during summer of 2016 and 2017. During summer of 2016 I implemented View->Show All Tabs for AppKit Window Tabs which is shipping in macOS High Sierra. In addition, I helped fix many developer and end-user facing bugs.

June 2015 - September 2015: [FileMaker Go Intern, at FileMaker Inc., an Apple subsidiary](#)

Developer on the FileMaker Go team, focused on iOS development in Objective-C and C++.

August 2011 - June 2014: [Student, at Citrus Circuits FIRST Robotics Team #1678](#)

As the Lead Programming student I led development of an innovative tablet and smartphone based app for collecting and analyzing data at robotics competitions. The project involved calculations of data on a central server, and remote viewing of data on smartphones.

In addition, I started a community service project to create a database system for monitoring homeless shelter bed availability.

Technologies used: iOS development, Android development, C++, MATLAB

April 2012 - September 2013: [Intern, at UC Davis Electrical and Computer Engineering Department](#)

Researched viability of ultrasound for near-field communication in consumer electronics, specifically iPhones. Co-authored research paper, and submitted to the Siemens Competition.

Collaborated with the Animal Science Department to conduct research using Radio Frequency Identification (RFID) technology to autonomously monitor beef cattle health.

Developed and implemented a Smith Chart app for iPad, a tool for electrical engineers to design high-frequency Circuits.

Technologies used: iOS development, realtime audio processing, Python, MATLAB