

# Elan Miller

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## SUMMARY

Senior at Washington University in St. Louis pursuing a combined bachelors and masters in computer science and seeking a coop/internship for fall 2018. I particularly enjoy the intersection of mathematics and computer science. Interested in software development, data science, and/or network security.

## EDUCATION

**Washington University in St. Louis**, St. Louis, Missouri, USA

- Bachelor of Science and Master of Science Candidate in Computer Science Aug 2014 – Dec 2018
  - Cumulative GPA: 3.55 / 4.0
  - Dean's List
  - National Merit finalist award recipient

### *Relevant Coursework*

Machine Learning Theory, Machine Learning Application, Bayesian Methods in Machine Learning, Cloud Computing, Artificial Intelligence, Rapid Prototype Development and Creative Programming

## SKILLS

Experienced With: Java, Python, MATLAB, SQL, Linux

Comfortable With: Scikit-Learn, PHP, Angular, Node, Laravel, Swift, JavaScript, HTML/CSS

Have Used: Keras, C++, R, VHDL, Hadoop, Xcode, TCPDUMP, Wireshark, Arduino, Raspberry Pi, Android Studio, Flask

## EXPERIENCE

**Software Engineering Intern** *Java, Spring, SQL*

- Software Engineering Co-op with Intelligrated in Atlanta, GA Jan 2017 – May 2017
- Developed, tested and deployed backend software for warehouse execution systems
  - Developed APIs that were used by over 50 other developers
  - Fixed over 60 bugs listed in JIRA

### **Research Experience for Undergraduates**

- Undergraduate Research Student at University of Nebraska-Lincoln Jun 2016 – Aug 2016
- Created Python and Bash scripts to download and test the 100 most popular apps in the Android store, as well as 700 apps from a third party Android store
  - Captured data leaks from the apps using Tcpdump and Wireshark
  - Studied software middleboxes and examined ways that middleboxes can be used to prevent user data leaks among mobile devices

**Software Engineering Intern** *Keras, Flask, AWS*

- Technology Development Program summer internship Jun 2018 – Aug 2017
- Upcoming summer project is to develop a neural network for Optimal Character Recognition–OCR–and add it to a Flask app to be created and deployed in AWS.

## OTHER WORK EXPERIENCE

**Teaching assistant at Washington University**, St. Louis, MO

- Teaching Assistant for Rapid Prototype Development and Creative Programming Aug 2017 – Present
- In this class of 175 students, I grade projects and answer questions involving the full stack of web development including the use of Amazon Web Services, front and back end design and deploying code to a server

## PROJECTS

**Sentiment Analysis** *Hive, Python, Hadoop*

- A program to analyze 34,000 reviews for Amazon items and determine how many stars are associated with each review.
- Achieved an accuracy of roughly 70% using an n-gram analysis approach

**Lost Pet Site** *Angular, Bootstrap*

- A site for people to upload data about a lost pet and/or search for their lost pet

**Campus Dinner Report** *Laravel, MySQL, AWS*

- Website to email and text kosher on campus dinner menus to subscribers
- Students sign up with their email and/or phone number and receive a message every morning with the kosher meal for the day

**Machine Learning: Understanding Income in First World Countries** *Python, Sci-kit Learn, Pandas*

- Ran various classifiers on the 48,000 samples in the [Adult Data Set](#) using 10-fold cross validation to determine the best classifier to predict whether a person makes over or under \$50,000 a year
- Used random forests to determine feature importance, finding that age is the best predictor of income

**ParkinSonar** *Sklearn, Android Studio, AWS*

- Built an android app that can predict, based on user supplied voice recording, whether the user has Parkinson's disease.