Alex Renda

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EDUCATION

Cornell University, Ithaca, NY.
Bachelor of Science, Computer Science, with a minor in Linguistics, expected May 2018.

CS Coursework:

- Object-Oriented Design and Data Structures – Honors
- Computer System Organization and Programming
- Introduction to Compilers with Practicum
- Machine Learning for Data Science
- Programming Languages and Logics
- Operating Systems with Practicum
- Machine Learning for Intelligent Systems
- Network Programming Languages (In Progress)
- Discrete Structures
- Data Structures and Functional Programming
- Introduction to Computer Vision
- Introduction to Analysis of Algorithms
- Foundations of Robotics
- Natural Language Processing
- Artificial Intelligence with Practicum
- Certified Software Systems (In Progress)

Saratoga High School, Saratoga, CA
Graduated as Salutatorian, June 2014.

SKILLS

Proficient in Java, Python, C/C++, OCaml, Unix systems, computer vision/machine learning, shell scripting, and version control.

EXPERIENCE / INTERNSHIPS

Two Sigma — May 2017 - August 2017

Software Engineering Intern

- Used Apache Spark to generate analytics of time-series data, working to improve estimation of option marketplace parameters, and automatically generating periodic reports for improved market understanding
- Created a production-ready data preprocessing and ingestion pipeline, using Java, Scala, Bash, Python, and SQL

Facebook — May 2016 - August 2016

Software Engineering Intern

- Created new public-facing features for Facebook's Android apps, including work on both Facebook and Messenger
- Refactored existing code to be more modular, accessible, and sustainable for future development
- Discovered and corrected issues in Facebook's backend related to my app work
- Worked collaboratively with a fellow intern on a significant project we co-owned

Cornell University Department of Computer Science — January 2017 - Present

Undergraduate Researcher, advised by Adrian Sampson

- Conduct research into creating better programming language abstractions for handling uncertainty and guaranteeing privacy in distributed machine-learning based environments
- Design and implement new language features, along with prototype applications that use them

CUAUV - Cornell University Autonomous Underwater Vehicle — September 2014 - Present

Software Team Member

- Use computer vision and machine learning (neural network-based and classical feature extraction followed by easy-to-train classifiers in lower dimensional space) to detect and classify different targets underwater
- Develop autonomous, priority-based routing and task execution systems
- Work as a member of a large (40+ person) team towards a yearly competition

In 2015, I stayed the summer and worked full time with CUAUV. During this time, I:

- Refined the machine vision system that I wrote during spring 2015
- Developed machine vision modules using OpenCV, scikit-learn, and Caffe
- Worked on miscellaneous tasks involved with managing the software suite of an autonomous submarine, such as debugging CAN bus issues, managing the Linux install, and synchronizing desires with the motor controller

CS 2112 - Object-Oriented Design and Data Structures – Honors **Fall 2015, Fall 2016**
Consultant

- Answered student questions about course content, online and in office hours
- Developed course material and assignments
- Taught weekly lab sections about programming best practices, including documentation, testing, profiling, version control, and software design patterns

Tesla Motors **June 2014 - August 2014**
System Validation Intern

- Wrote a user interface for test case management. The tool guided users through a series of prompts and dynamically created complex queries based on user responses
- Designed and implemented a Python interface to automatically upload test case results to a server
- Developed an Android app to monitor results of automated regression tests

Android Development
Developed and released several Android apps, including:

- An app that parses XML data about a popular video game and displays it in a graphical format
- A weight and balance calculator, which lets pilots check if their plane is safe to fly with its current weight distribution
- A nonlinear tower defense game