

Christopher Hay

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EDUCATION **PRINCETON UNIVERSITY** | BSE IN COMPUTER SCIENCE

Expected June 2017 | Princeton, NJ

Minors: Robotics and Intelligent Systems as well as Statistics and Machine Learning

Cumulative **GPA: 3.81** / 4.0 | Departmental **GPA: 3.85** / 4.0

Coursework: Algorithms & Data Structures, Systems Programming, Modern Logic Design,
Statistics, Linear Algebra, and Multivariate Calculus

Spring Coursework: CS Theory & Discrete Math, Big Data & Machine Learning

WORK **OSCAR HEALTH** | SOFTWARE ENGINEERING INTERN

June 2015 - August 2015 | New York City, NY

- Designed and implemented degradation function for distance and cost estimates in health care searches using Solr, Thrift, and Twisted. Implemented in python.
- Created the company's first testbench for evaluating search performance. Done by building quality profiles and various data-specific statistical evaluations and visualizations. Implemented in python using NumPy, SciPy, Pandas, Matplotlib, Seaborn, and Cython.
- Aggregated and contextualized users' activity logs in order to statistically analyze user behavior and further evaluate search results. Implemented in python.

EXPERIENCE **PRINCETON AUTONOMOUS VEHICLE ENGINEERING** | HEAD OF SOFTWARE

Sep 2014 - Present | Princeton, NJ

- Worked on socket handling and OBD-PID request handling in C/C++ to interface the Ford Fusion's CAN bus protocol with our system's ROS framework.
- Created ROS modules for reading data and writing commands to/from the car's throttle, brakes, and steering in C++.
- Decrypted/analyzed unknown CAN data packets via oscilloscope in order to determine Ford's protocol for various CAN ids.

OPEN SOURCE AT PRINCETON | PROJECT LEAD & OFFICER

Sep 2013 - Present | Princeton, NJ

- Currently lead and mentor a team of six Princeton students who contribute to OpenMRS.
- Handled and resolved all member setup and ticket-approach related issues.
- Recruited students to join the open source community.

OPENMRS | OPEN SOURCE CONTRIBUTOR

Sep 2013 - Present | Princeton, NJ

- OpenMRS is a digital medical record system used in developing nations.
- Contributed various bug fixes and added features to the patient search system using mostly Java and some Javascript.

PROJECTS **FROODER** | ANDROID PROGRAMMER & BACKEND MANAGER

Nov 2014 - Present | Princeton, NJ

- Android/iOS app that aggregates information relevant to obtaining free food.
- Single-handedly implemented the Android version and helped with the iOS version.
- Managed the database and coded all back-end services.
- Designed and implemented core algorithm for determining likelihood of food remaining.

ACTIVITIES **ENTREPRENEURIAL CLUB** | MEMBER

Sep 2013 - Present | Princeton, NJ

ECOLOGY CLUB | SENIOR MEMBER

Aug 2009 - Present | Gilbert, AZ

SKILLS Most experienced with: Python • Java • C • R • Android • Linux

Proficient with: C++ • Verilog • Assembly (AT&T/LC3) • Javascript • HTML/CSS

Familiar with: iOS • MySQL • \LaTeX