

# James Mackey

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## EDUCATION

**Cornell University, Computer Science – College of Engineering – Ithaca, NY**

**Expected May 2017**

**Cumulative GPA:** 3.42; **Major GPA:** 3.51; **Dean's List:** 2013, 2015, 2016

**Related Coursework:** Object-Oriented Programming and Data Structures; Functional Programming; System Programming/Architecture; Operating Systems; Algorithms; Web Design and Databases; Artificial Intelligence; Scripting; Linear Algebra; Differential Equations; Data Visualization; Discrete Structures

## RELEVANT WORK EXPERIENCE

**Credit Suisse – Summer Technology Analyst**

**June 2016 – August 2016**

- Designed XML data model & wrote XML DB API for internal health check application
- Designed & implemented Angular-based page to visualize key data pipeline statistics
- Suggested architectural changes to be implemented to help improve average latency in data pipeline
- Implemented multi-threaded logging client to track memory usage in WebLogic instances

**Workday – Software Engineering Intern**

**May 2015 – August 2015**

I worked on an application to integrate with the in-house automating testing system that:

- Parses XML files with sizes on the order of gigabytes into BSON
- Searches the database for runs by test case id, date, failures, etc.
- Represents a test run in a front-end application using asynchronous lazy loading
- Reduced load time in the browser from up to 20 minutes to less than 1 second

**Cardiopulmonary Corp. – Software Engineering Intern**

**June 2014 – August 2014**

- Developed mobile application allowing nurses and doctors to (1) view current assignments, (2) change assignments, (3) view alert history, (4) transfer assignments to a co-worker
- Queried and altered SQL Server database based on user input
- Planned and implemented the application with guidance from a project manager

## LEADERSHIP EXPERIENCE

**Cayuga's Waiters - Cornell's oldest a cappella group, performs year-round generating over \$25,000 in annual revenue**

- **President** (May 2016 – Present): Running core leadership team of 14-person group by overseeing responsibilities and strategic vision of business management, group dynamic, musical direction, alumni relations, show production logistics, tours and album sales
- **Musical Director** (May 2015 – May 2016): Planned and ran rehearsals, wrote and edited musical arrangements, oversaw proper technical training of new members
- **Show Coordinator** (December 2014 – May 2015): Planned and organized the Spring concert, led campus-wide marketing efforts and managed ticket sales, which generated over \$11,000 in revenue

**Guilford High School**

- **Class President** (August 2011 - June 2013): Oversaw \$70,000 budget for graduation, prom, and reunions; organized and ran prom committee
- **Varsity Hockey Captain** (June 2012 - March 2013): Organized summer training, focused on freshmen integration
- **Voices President** (August 2012 - June 2013): Helped pick musical selections, led sectional rehearsals

## PROJECTS

**MapReduce** (Fall 2014, OCaml): Developed MapReduce structure and associated applications (i.e. map words from docs to file names, find common friends in graph)

**Honeypot** (Spring 2015, C): Multi-core server that accepts network packets, categorizes them and tracks key statistics related to their arrival

**Email Inbox** (Fall 2015, Python): Concurrent implementation where main thread passes off incoming SMTP connections to thread pool to process. Emails stored in text docs

**3D Tic-Tac-Toe Bot** (Fall 2015, Python): Implemented bot based on minimax algorithm that learned from sampling

## OTHER WORK EXPERIENCE

**Cornell United Religious Work – Student Employee**

**September 2015 – Present**

**Bar 80 – Bartender**

**June 2014 – April 2015**

**Cornell Lincoln Music Library – Circulation Assistant**

**September 2014 – May 2015**

## LANGUAGE SKILLS

**Advanced:** Java, Python, JavaScript, C#, SQL

**Proficient:** C, OCaml, Bash, PHP, HTML, CSS

**Familiar:** R, Matlab, Mongo QL, Objective-C