

# Brandon Gottlob

SOFTWARE ENGINEER

info@bgottlob.com | bgottlob.com | GitHub: bgottlob

## Education

### New York University, Tandon School of Engineering

New York, NY

MASTER OF SCIENCE IN COMPUTER SCIENCE

January 2019 - December 2020

**Cumulative GPA:** 3.9

### The College of New Jersey (TCNJ)

Ewing, NJ

BACHELOR OF SCIENCE IN COMPUTER SCIENCE, MINOR IN FINANCE

2012 - 2016

**Cumulative GPA:** 3.98 | **Honors:** *summa cum laude*, Phi Beta Kappa, Upsilon Pi Epsilon, Phi Kappa Phi

## Skills

**Expertise in** Ruby, Erlang, Elixir, Bash, Phoenix, PostgreSQL, MySQL, SQLite, CouchDB, Docker, Selenium, GNU/Linux  
**Experience with** Go, JavaScript, Python, Java, C, C++, Objective-C, Node.js, Ruby on Rails, RabbitMQ, Neo4j, OpenMP, gRPC, PropCheck, PropEr, Nix

## Professional Experience

### Tabula Rasa HealthCare, Inc.

Moorestown, NJ

SOFTWARE ENGINEER, PRODUCT VALIDATION

May 2016 - Present

- Design and develop distributed service infrastructure enabling horizontal scaling and orchestration of end-to-end regression tests using Ruby, Ruby on Rails, and RabbitMQ
- Support product development teams across the enterprise to adopt cloud infrastructure to scale tests and accelerate feedback on code changes, enabling more frequent, stable releases to production
- Develop enterprise-wide frameworks, design patterns, and production-like data generation libraries for building complex, maintainable regression test code
- Lead team responsible for testing, improving product quality, ensuring service reliability, and managing releases from requirements refinement to production for the *MedWise* medication risk mitigation product suite
- Develop production monitoring tools, continuous integration pipelines, and automated test suite for *MedWise* using Ruby and Selenium
- Respond to production incidents by analyzing logs and monitored metrics, diagnosing root cause bugs and bottlenecks, and communicating mitigations and status with end users
- Conduct post-mortems to present findings of incident investigations and build action plans to improve incident response process, service architecture, and application code
- Manage and triage production bugs in close collaboration with product management, end users, and other stakeholders

### Lehigh University - National Science Foundation Smart Spaces REU Site

Bethlehem, PA

UNDERGRADUATE RESEARCHER

Summer 2015

- Built English command interpreter for a robot to parse sentence structures and identify synonyms of known words using Python
- Utilized natural language processing tools and techniques including part-of-speech tagging, semantic similarity graphs, and stemming

## Projects

### Apex - Analysis and Visualizations of Racing Simulator Telemetry Data

June 2020 - Present

- Built a distributed pipeline for parsing and streaming telemetry data delivered as binary UDP packets from multiple racing simulators using Elixir
- Developed a Phoenix web front-end dashboard displaying live D3.js visualizations of data
- Created stateful, distributed functions for aggregating lap-wise statistics and streaming back to the dashboard in real time

### Distributed Blog Post Clone

March 2020 - May 2020

- Created a distributed web application using Go allowing users to create brief posts and follow each other
- Designed multi-node data consistency model and failover mechanisms using etcd's Raft consensus algorithm implementation

### Stock Portfolio Performance Simulator

Fall 2015 - Spring 2016

- Utilized Monte Carlo methods and lognormal price process model to simulate future returns of portfolios from historical prices
- Implemented in C and parallelized for multicore processors using OpenMP

### Room Occupancy Detection in TCNJ Library

Fall 2014 - Spring 2015

- Developed passive infrared motion sensor and Bluetooth iBeacon based systems to detect occupants in library group study rooms
- Presented project implementation and findings in ACM Student Research Competition at SIGCSE Conference 2015 in Kansas City, MO

## TCNJ Connect Mobile Application

Spring 2013 - Spring 2016

- TCNJ Connect provided students with academic services, event calendars, and emergency services
- Implemented cross-platform database, and created processes and documentation for simple maintenance of app content

## Community Involvement

---

### Philly Elixir

May 2019 - Present

- Give talks, demonstrations, and provide Elixir support for local interest group

### Exercism - Erlang Track Mentor and Maintainer

October 2018 - Present

- Perform code reviews on online, open-source platform to help students write efficient, idiomatic Erlang code
- Mentored over 150 students through over 300 code reviews

### Arch Linux - Official Tester

June 2017 - Present

- Sign off on packages in testing repositories and report bugs to help support Arch's rolling release schedule

### Association for Computing Machinery (ACM) - TCNJ Chapter

PRESIDENT (2015 -2016), VICE PRESIDENT (2014 - 2015)

Fall 2014 - Spring 2016

- Planned weekly meetings, ran computer science departmental events, and organized annual hackathon, HackTCNJ

## Awards

---

### Overall Winner - SpawnFest

2019

- SpawnFest is a 48-hour development competition where teams use languages based on the Erlang virtual machine (BEAM)
- Built Exile, a real-time, NoSQL database service with an HTTP API backed by ETS and built in Elixir

### Correctness Category Winner - SpawnFest

2018

- Developed Brink, an Elixir library for building data processing pipelines backed by Redis Streams

### Inductee - New Jersey Governor's STEM Scholars Program

2015

- Mentored high school students through an Android mobile development project

### Student Research Poster Award - Consortium for Computing Sciences in Colleges (CCSC)

2013

### Eastern Conference

- Won award for best poster presentation at regional computer science conference for work on TCNJ Connect project