

# MARIUS GARBEA

3400 Lancaster Ave, Philadelphia PA

(+1)215-802-3336 ♦ [mariusgarbea@ymail.com](mailto:mariusgarbea@ymail.com) ♦ [mariusgarbea.github.io](https://mariusgarbea.github.io)

## EDUCATION

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### Drexel University

September 2017 - June 2021 (expected)

*BS Computer Science and BS Mathematics with honors*

GPA: 3.99/4

Member of the [Computer Science Theory Group](#) at Drexel

Teaching assistant for CS265 - Advanced Programming Techniques

Co-founder and executive board member of Drexel Blockchain

## TECHNICAL SKILLS

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### Computer Languages

Python, C#, Java, Javascript, C, C++, Go, SQL

### Software & Tools

NodeJS, ReactJS, Spring, Hibernate, Git, L<sup>A</sup>T<sub>E</sub>X

## EXPERIENCE

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### Susquehanna International Group

March 2019 - September 2019

*Software Engineering Intern*

Philadelphia, PA

- Built a system that transforms FIX messages provided by a trading platform to an internal format, along with an output validation tool, allowing the company to log and reference all chains of transactions
- Added multiple filtering features to a comparison software that checks expected firewall settings against existing settings, allowing admins to group different policies for comparison and manage possible breaches
- Developed a reporting and analysis tool, used to point out and correct mismatches between instrument records from reliable external sources and auto-generated records in internal databases
- Developed a module for archiving and packaging files based on criteria such as source and date, used for trade data migration to long term storage

### ActivFix

December 2017 - October 2018

*Software Engineering Intern*

Bucharest, Romania

- Refactored the codebase from a monolith to microservices using Spring Boot, reducing deployment time and development start-up time
- Developed an admin module and a payment module, speeding up the launch process by several months
- Configured and managed the infrastructure of the app using an Ubuntu cloud server and Nginx proxy server, and wrote various automation scripts, reducing admin's manual work by 20%

## RESEARCH AND PERSONAL PROJECTS

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### Ascending auctions and split interval scheduling

Research project

- Converted a linear program for interval graphs to a tight 2-approximation rounding algorithm for weighted group interval scheduling
- Implemented a two-pass rounding algorithm for item distribution, simulating rounds of a truthful mechanism for ascending auctions
- Presented about easy and hard variants of interval scheduling to Drexel's theory group

### SpeedPlan

Event flyer scanning mobile app

- Implemented a data parsing algorithm and a grayscale filter, improving text recognition by 10%
- Designed the underlying architecture and structure of the app following MVC and DAO design patterns
- Used specific libraries for camera, file system and external apps interaction and integrated Tesseract OCR