

Alex Karacaoglu

Greater Boston Area

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Education

Boston College, Morrissey College of Arts and Sciences

Chestnut Hill, MA

Bachelor's Degree in Mathematics and Computer Science with a Minor in Economics

Aug. 2015 – May 2019

- Dean's List (Spring 2016, Fall 2016, Spring 2017, Fall 2017, Spring 2018)
- Coursework: Algorithms, Abstract Algebra, Computer Organization, Computer Security, Computer Systems, Cryptography, Data Structures, Differential Equations, Machine Learning, Real Analysis, Statistics, Theory of Computation, Topology
- Member of the Boston College Computer Science Society

Professional Experience

Liberty Mutual Insurance

Boston, MA

Incoming Technology Associate

June 2019 –

- TechStart Software Development Training and Rotational Program

Boston College, Mathematics Department

Chestnut Hill, MA

Mathematics Grader

Sep. 2018 - Present

- Euclidean/Non-Euclidean Geometry – Fall 2018

Liberty Mutual Insurance

Boston, MA

Software Development Intern

May 2018 – Aug. 2018

- Worked on the US Consumer Markets Financial Services team on the field agent payout system
- Integrated into the agile squad and picked up as well as collaborated on development requests to help achieve sprint goals
- Upgraded old services with external dependencies to new Spring Boot microservices
- Optimized and refactored these microservices to achieve a clean and maintainable code base
- Used behavior driven development and the Spock testing framework to ensure new services worked effectively

Boston College, Office of Student Athlete Academic Services

Chestnut Hill, MA

Mathematics and Computer Science Tutor

Jan. 2018 - Present

- Calculus I & II – Fall 2018
- Intro to Computer Science I (Python) – Spring 2018, Fall 2018

Boston College, Computer Science Department

Chestnut Hill, MA

Head Computer Science Teaching Assistant

Aug. 2017 - Present

- Hold weekly office hours as well as grade and provide feedback on problem sets
- Logic and Computation (Models of Computation, Number Theory, Proofs, Propositional and Predicate Logic) – Fall 2018
- Randomness and Computation (Matplotlib, NumPy, Probability) – Spring 2018
- Intro to Computer Science II (Algorithms, Data Structures, Java) – Fall 2017

InterSystems Corporation

Cambridge, MA

Product Support Intern

May 2017 – May 2018

- Provided functionality and security enhancements to a clinical risk application used with the TrakCare EMR
- Designed algorithms to provide analysis on the effectiveness of the company's TrakCare support teams in upholding service level agreements (SLAs) with customers
- Used these to embed a new analytics dashboard into the TrakCare Resolution Center to provide new insights into the data

Projects

Automated Cryptanalysis of a Monoalphabetic Cipher

- Used trigrams and an optimization algorithm to exploit insecurities of this encryption method and return a decrypted text

GeomPy

- Differential geometry and dynamical systems library built on top of SymPy

Recreation Signup Application

- Backend developer for a new recreational course creation and participant signup application
- Spring on the backend with a MySQL database

Technical Skills

- Proficient: Java, Spring, Python, Unit Testing (Spock, JUnit), Git, InterSystems Caché/ObjectScript, LaTeX
- Experience with: C, SQL, Oracle, AngularJS, CSS, HTML, JavaScript, REST APIs, Gradle, Microservice Architecture