

# Colton Rusch

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## EDUCATION

### Brown University

Sc.B., Computer Science. A.B., Music. GPA: 4.0/4.0

*Relevant Coursework:* Computer Systems, Software Engineering, Computer Systems Security, Discrete Mathematics, Accelerated Intro. to Computer Science (Data Structures & Algorithms), Linear Algebra, Multivariable Calculus

Providence, RI

Expected May 2023

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## EXPERIENCE

### Amazon Web Services, Software Development Engineer Intern

May 2021 – July 2021

- Implemented and deployed XGBoost-based classification models to generate product suggestions for AWS customers with ~90% accuracy and predict AWS sales opportunity outcomes with ~85% accuracy
- Developed and deployed end-to-end pipeline to ingest millions of data points, train association rule mining and collaborative filtering models, and serve next best action recommendations to AWS salespeople
- Leveraged knowledge of NumPy, Pandas, Matplotlib, Scikit-learn, Jupyter, Docker, and AWS services such as AWS Lambda, Amazon S3, Amazon RDS, Amazon ECR, AWS Key Management Service, and Amazon SageMaker

### Brown University, Head Teaching Assistant

March 2020 – Present

- Automated grading using Python to reduce instructor workloads by 50% in 3+ courses across 2 universities
- Scaled class operations to run with up to 400 enrolled students and transition to remote learning
- Supervised staffs of 47 TAs for CSCI 0111 (Computing Foundations - Data) and 20 TAs for CSCI 0320 (Software Engineering)

### Brown University, Undergraduate Teaching Assistant

December 2019 – May 2020

- Aided 150+ students with Python and functional programming assignments during office hours and on online forums
- Presented new computer science and data science concepts and gave one-on-one instruction to groups of 30 students during weekly lab sessions
- Designed and graded assignments, labs, projects, and quizzes on topics such as recursion, program design, and data analysis using Pandas

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## PROJECTS

### DirectPlaylists

July 2020 – Present

- Built a web application to help artists and record labels target Spotify playlists for music marketing campaigns through machine learning analysis of hundreds of thousands of songs and playlists using Spotify's API
- Utilized: HTML, Bootstrap CSS, JavaScript, Python, Django, PostgreSQL, [Heroku](#)

### TravelChat

February 2020 – May 2020

- Designed and developed a group chat web application to help users create travel plans by synthesizing thousands of data points for hundreds of global travel destinations
- Built a REST API to facilitate authentication and front-end interaction with NoSQL database, ensuring reliable and secure storage of user data
- Utilized: HTML, CSS, JavaScript, Java, Spark, Firebase Realtime DB, [Heroku](#)

### Google Maps Clone

March 2020 – April 2020

- Engineered a web mapping service to query location data and find shortest paths between locations
- Implemented a multithreaded k-dimensional tree and A\* Search pathfinding from scratch
- Utilized: Java, Spark, SQLite

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## SKILLS & INTERESTS

**Technical Skills:** Java, Python, C, JavaScript, Git, SQL, HTML/CSS, AWS, Data Structures, Algorithms, Bash, Linux

**Interests:** multi-instrumentalist (guitar, piano, drums, bass, ukulele, trumpet), track & field enthusiast