

# GAUTAM NAIR

Software Engineer — U.S. Citizen

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## Work Experience

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### MarketAxess

Sep 2022 — Present

*Associate Software Engineer*

*New York City, NY*

- Developed test suites using **Kafka** streams to bounce calls off middle-ware server to replicate system.
- Developed multiple features of US Credit trading protocols which applied **multi-threaded patterns** to apply proprietary **CP+** data to trades in real-time.
- Led implementation of new FINRA regulatory requirements on post trade messages communicated over FIX protocols (**API**) for U.S. dealers making large Portfolio trades, saving companies large amounts on reporting fines.
- Led implementation to allow liquidity taking clients to perform amendments on agreed spread while maintaining delayed spot time (via **Java application**).
- Provided real time production support for trading desks. Responsibilities included identifying bugs across platform and servers, recommending fixes, and communicating with upper management.
- Part of agile scrum team focused on developing and maintaining hedging services to enable companies to hedge corporate risk by leveraging liquidity provided by LQE and GS and perform larger blocks trades of bid/offer/mixed lists.
- Ran point for multiple major environment releases/disaster recovery scenarios.
- Worked closely with industry experts and product/project managers to build and maintain CI/CD pipelines.
- Participated in mentorship program to assist interns and junior developers navigate complex projects.
- AWS Certifications: Cloud Practitioner, Developer Associate
- Technology: Java - Spring Boot, Python, Oracle SQL, AWS, FIX 4.4/5.0SP2 Protocols, Windows and Unix bash scripting, Ranorex Test Scripting, Legacy code

### Sentinel One

Jun 2020 — Jan 2021

*Back-end Software Engineer*

*Remote*

- Built a back-end **PowerShell** library to automate forensic reporting and aid endpoint clients to perform administrative tasks including running YARA scans, manipulating file systems, and performing WMI queries.
- Enabled remote endpoints to store system reports, logs, and more to **cloud storage** options.
- Technology: AWS (S3 and Glacier), PowerShell 5.1.

### Mswipe Technologies

Dec 2019 — Jan 2020

*Data Science Intern*

*Mumbai, India*

- Built **facial detection** software from OpenCV and TensorFlow libraries to automate merchant verification process. Optimization led to saving 6-8 hours of work per week.
- Translated complex data sets into graphic visual representations for non-technical audiences.

### 8x8, Inc.

May 2019 — Jul 2019

*Analytics Intern*

*San Jose, CA*

- Optimized **lead generation** and churn **prevention**: Automated data transfer between provider and sales team by building pipeline for enrichment and filtering. Utilized **caching** algorithms to improve efficiency.
- Led to making sales leads generation a smooth and robust process

### Going Moving Company

April 2021 — June 2022

*Operations and Marketing Analyst*

*Blacksburg, VA*

- Developed strategies to increase sales and reach. Oversaw smooth operations of small and large scale jobs around Virginia. Team leader for 10+ multi-day assignments.
- Responsible for building in-house CRM to optimize worker efficiency and transparency. Utilized Google APIs to automate scheduling and resolve inventory/schedule conflicts.

## Education

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### Virginia Tech

Aug. 2018 – May 2022

*B.S. in Computer Science, Minors in Math and Philosophy*

*Blacksburg, VA*

### Cathedral and John Cannon School

Jun. 2012 – May 2018

*International Baccalaureate, ICSE*

*Mumbai, India*

## Technical Skills

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**Languages:** Java, Python, C, SQL, PowerShell, Js/Ts, Assembly(x86 and MIPS), elementary Rust and Pascal

**Technologies/Frameworks:** Spring Framework, Google Cloud Platform, AWS, Keras and TensorFlow, APIs, Git, JUnit, NodeJS and Angular, MongoDB

## Projects

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### OVERLAP Matching - VT | *RxJs, Node.js, MongoDB*

February 2022 - May 2022

- Software Engineering Capstone: Web based application to pair groups of students on campus based on interest similarity index.

### Blockchain Storage Solution | *Cardano, Solana*

January 2022 - March 2022

- Building a quick-use storage solution for storage with the objective of understanding various protocols and building/hosting a solution.

### Multi-class labeling — Sentiment Analysis using BERT | *HuggingFace, PyTorch, BERT*

November 2021

- Fine-tuned BERT's pre-trained model for labeling of toxic comment dataset. Achieved **96.4%** accuracy.
- Demonstrated the abilities of BERT, explained **R-NN design** and **Transformer architecture** to a technical audience (30+ attendees)
- Analyzed performance metrics of several pre-trained models including **DistilBert** and **RemBERT**.

### WhatsPoppin! | *JavaScript, Angular, NodeJS*

August 2021

- Web application that stores user reviews of local bars and restaurants. Equipped with CRUD functionality, dynamic UI and **JWT** authorization.

### Dynamic Memory Allocator | *C*

April 2021

- Implemented a work sharing-stealing hybrid memory strategy to design an efficient storage allocator.

## Relevant Coursework

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|--------------------|--------------------|-------------------------|-------------------------|
| • Data Structures  | • Computer Systems | • Cryptography          | • Applied Combinatorics |
| • Machine Learning | • Cloud Software   | • Theory of Computation | • Windows PowerShell    |

## Extracurricular

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### Virginia Tech International Collegiate Programming Team — Coder

*Virginia Tech*

- Train for and compete in algorithmic programming contests for Virginia Tech.

### Blockchain @ Virginia Tech — Affiliate

*Virginia Tech*

- Part of a the only blockchain-focused community on campus. Attend events and discuss solo/group projects with alumni and students.

### Engineering World Health — Affiliate

*Virginia Tech*

- On-campus biomedical engineering group aimed at tackling large scale health issues.

### Alpha Phi Omega — Brother

Spring 2019 – Spring 2021

*Zeta Beta Chapter*

- Support the Blacksburg community through volunteering at various organizations logging over 45 service hours per semester.

References available on request.