

Abhinav Sirohi

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WORK EXPERIENCE

Bank of America

New York, NY

Software Engineer II – Market Data Technology & Services

Jul 2023 – Present

- Developed high-performance Java, Python, & C++ services for delivering market data to trading applications
- Onboarded new data sets and services requested by traders and applications, enhancing platform coverage
- Automated packaging of Java-based SDK using Python, resulting in 80% faster deployments
- Reduced end-to-end market data latency by 20% through transport-layer and application-layer optimizations in high-throughput LSEG RTS SDK pipelines
- Designed and implemented a centralized logging service to send API usage data asynchronously to Elasticsearch via UDP, enhancing visibility for downstream consumers to save costs and track throughput/latency
- Conducted stress tests to benchmark message throughput and latency, identifying limits on publish/subscribe rates

Software Engineer Intern – Data Analytics & Reporting

Jun 2022 – Aug 2022

- Developed web app to serve incident data requests/analyses from SQL Server, increasing analyst efficiency by 20%
- Created K-means cluster analysis tool in Python to reveal key themes in text-based datasets

SMBC Capital Markets

New York, NY

Software Engineer Intern – FICC Trading

Jan 2022 – May 2022

- Delivered C# script for alerting when a daily email service faces a bottleneck to trigger scaling
- Revised C-based options calculation model in accordance with the Standard Initial Margin Model

Invoca

Santa Barbara, CA

Software Engineer Intern – Client Dashboard

May 2021 – Aug 2021

- Developed dockerized microservices using Ruby on Rails, React.js, and GraphQL deployed using Kubernetes
- Created reusable React parent components, reducing new component development time by 10%
- Wrote Ruby scripts to monitor production databases and send alerts, saving 4 weekly on-call developer hours

Rutgers University

New Brunswick, NJ

Teaching Assistant – Computer Architecture

Jan 2021 – May 2021

- Lectured 150 students on C programming, CPU/cache design & assembly and automated grading using Python

EDUCATION

Rutgers University – GPA: 3.9/4.0 (Honors College)

New Brunswick, NJ

Bachelor of Science in Computer Science and Mathematics

Sep 2019 – May 2023

- **Coursework:** Data Structures & Algorithms, Software Design, Data Science, Systems Programming, Operating Systems, Discrete Structures, Database Systems, Linear Optimization, Graph Theory, Calculus I-V

PROJECTS

FlashMap | Java, JMH, Maven, Python

- Designed a high-performance hash map using Robin Hood hashing, Structure of Arrays, primitive storage, power-of-2 sizing, and cluster-aware deletions to minimize probe variance and maximize cache efficiency
- Validated performance over 10M+ operations, achieving 20–60% faster lookup throughput and 20–40% lower lookup latency versus java.util.HashMap across map sizes (1K–10M entries)

Lucid | Python, FastAPI, MongoDB, PostgreSQL, Neo4j, AWS S3, EC2, Next.js, System Prompt Engineering

- Engineered a personalized AI-based learning platform that helps students truly master subjects by tracking learned concepts, identifying knowledge gaps, and increasing question difficulty accordingly
- Designed the AI agent to be consistent, provide hints rather than answers, present questions in a canvas, and determine the student's understanding with tests which are all used to create reports on mastery and performance

TECHNICAL SKILLS

Languages: Python, Java, C, SQL, JavaScript, HTML, CSS

Frameworks/Libraries/Tools: Linux, Maven, Git, Docker, Kubernetes, REST APIs, Jenkins, Spring Boot, React.js, SQL Server, Pandas, Jupyter Notebook, Tableau, Scrum, Agile

Certifications: AWS Certified Developer – Associate, Bloomberg Terminal Training Certification (BTTC)