

# TRINAV BHATTACHARYYA

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## EDUCATION

<b>Columbia University</b>	New York, NY
<b>MS in Computer Science (Machine Learning Track)</b>	Expected Dec 2026
Coursework: Supervised ML, NLP, AI, Algorithms, Security & Cryptography, Privacy.	
<b>Jadavpur University</b>	Kolkata, India
<b>BE in Computer Science and Engineering, 8.88/10</b>	May 2022
Coursework: OS, Distributed Systems, TCP/IP, Discrete Math, Probability & Statistics.	

## PROFESSIONAL EXPERIENCE

<b>Amazon Web Services</b>	Bengaluru, India
<b>Software Development Engineer II / I</b>	Jun 2022 - Jul 2025
• Collaborated with AWS Aurora's database storage team focusing on durability and availability.	
• Promoted to SDE II (Oct 2024) for ownership of Aurora QA infrastructure and customer-impacting reliability work.	
• Resolved 5 critical Undo code defects in MySQL impacting Netflix and Paytm, leading root-cause analysis and client refunds.	
• Collaborated with 3 engineers to decrease replication time in Aurora's Graph DB by 20%, attracting clients such as Disney.	
• Built and owned high-throughput validation infrastructure (Java, Bash, PostgreSQL) for distributed, latency-sensitive systems, cutting down production deployment time by 70%.	
• Led a team of 3 to enhance C++ code and reduce chances of downtime by 15% via intelligent performance anomaly detection.	
• Mentored an intern for six months and integrated code into production, increasing database node availability by 20% through optimized replication.	
• Scrutinized team's annual bill to reduce infrastructure cost by 15% via hardware modernization and removal of unused nodes.	
• Leveraged session-token mechanism in Linux Bash scripts during boot-up of DB nodes to extract metadata and achieve 100% adherence to mandated security protocols.	
• Conducted interviews for SDE 1 and intern roles, collaborating with management and bar-raisers on evaluation and hiring.	
<b>Amazon Web Services</b>	Bengaluru, India
<b>Software Development Engineer Intern</b>	Jun 2021 - Jul 2021
• Designed and implemented Java-based tool to collate logs from 100,000+ Aurora nodes, store in DynamoDB, and visualize with a dashboard. Tool integrated into production, leading to full-time offer.	

## RESEARCH & TEACHING EXPERIENCE

<b>Columbia University Graduate School of Arts and Sciences</b>	New York, NY
<b>Teaching Assistant - II</b>	Jan 2026 - Present
• Grading and supporting students for a Python-based graduate-level NLP course involving PyTorch and multivariable calculus.	
<b>ARiSE Lab, Columbia University</b>	New York, NY
<b>AI &amp; Privacy Research Assistant</b>	Oct 2025 - Present
• Developing NSF-funded audit framework for 10+ LLMs using Causality at Advanced Research in Software Engineering Lab.	
• Collaborating with 3 faculties from Columbia, Wesleyan & University of South Carolina, and 2 researchers from Google & IBM.	
<b>CMATER Lab, Jadavpur University</b>	Kolkata, India
<b>AI/ML Research Assistant</b>	Jan 2020 - Apr 2022
• Published 9 research papers in peer-reviewed journals (IEEE, Springer, Elsevier) accumulating 400+ citations, and guided 4 students at the Centre for Microprocessor Applications Training and Research.	
• Researched stock market prediction, image segmentation and feature selection. Presented at 3+ conferences.	

## ACADEMIC PROJECTS

### Py\_FS: An Open-Source Package For Feature Selection (Python)

- Coded ML algorithms using scikit-learn with 66+ GitHub stars and 39+ forks, leveraged by researchers worldwide.

### CUFoodie: Food Near Columbia University (Python, JavaScript)

- Developed full-stack React + Flask app with PostgreSQL backend to serve curated restaurants for 500+ students near Columbia.

## TECHNICAL SKILLS

Programming: C++, Java, Python.

Web & App Development: JavaScript, TypeScript, PHP, Kotlin (Android).

Machine Learning: NumPy, SciPy, Pandas, scikit-learn, MATLAB.

Cloud & Tools: AWS (EC2, S3, DynamoDB, RDS, EMR), Git, Hadoop.

Concepts: CI/CD, Low-Latency Systems, Generative AI, Deep Learning, REST APIs, OOP, Virtualization.

Certifications: AWS Data Analytics (2022), IBM Cloud Computing (2022).