# AMANI AGRAWAL

+1 (917) 655-0085 | aa10733@nyu.edu | [github.com/amani-agrawal](github.com/amani-agrawal) | [linkedin.com/amani-agrawal](linkedin.com/amani-agrawal)

## EDUCATION

**New York University, College of Arts and Science**                                New York, NY
*B.A in Computer Science and Mathematics*                                    *Expected - May 2027*
**Overall GPA**: 3.824 | **Honors**: Dean's List for the Academic Year 2023-24
**Relevant Courses**: Data Structures, Operating Systems, Basic Algorithms, Deep Learning, Data Management and Analysis, Discrete Mathematics, Calculus III, Linear Algebra, Introduction to Computer Security, Computer System Organisation.

## PROFESSIONAL EXPERIENCE

**Transmit.live**                                                         New York, NY
*Incoming Software Engineering Intern*                                    *May 2024 – Present*

**Microsoft x NYU**                                                       New York, NY
*Development Team*                                                  *September 2024 – May 2024*
- Deployed a scalable Layer-2 blockchain on Arbitrum by implementing smart contracts in Solidity.
- Developed client-side interfaces with JavaScript and backend services in Python to manage corporate wallets.
- Ensured secure institutional attestations and prevented fraudulent on-chain transactions by leveraging Semaphores.
- Presented the solution in the Microsoft Ethical Tech Summit '24 at the prestigious Microsoft Innovation Lab.

**Balaji Industries Private Ltd**                                              Remote
*Software Engineer Intern*                                           *July 2024 – August 2024*
- Developed a Flask software to automate end-to-end business processes for a steel company with over 100 employees.
- Implemented MySQL for robust data storage using Google Service API and optimized querying of business records.
- Reduced manual documentation time by 50% and integrated a BI dashboard to aid in business analysis and growth.
- Integrated a secure user authentication system to ensure enhanced data privacy and controlled access permissions.

**Arohan Financial Services Ltd**                                           Kolkata, India
*Software Engineering Intern*                                          *June 2024 – July 2024*
- Implemented Pandas and MySQL to efficiently merge branch information tables, streamlining data across multiple branches.
- Migrated and debugged 50+ Python scripts to new servers, updated MongoDB queries, and imported necessary SQL tables.
- Developed pages using PHP, Python and MySQL for viewing product trends and downloading activity reports.
- Enhanced the report-subscription page with options to view and unsubscribe from subscribed reports for a user.

## RESEARCH

**Database System Tuning (MySQL, PostgreSQL, MariaDB, DuckDB)**            *January 2025 - Present*
- Researched on the benchmarking and performance evaluation of 4 modern database systems on compute servers.
- Conducted 100 experiments with transaction processing council (TPC) standards, and presented findings using bar charts.
- Worked under the guidance of Professor Shasha to optimize workflows and assess various database tuning strategies.
- Analyzed query execution plans and indexing strategies to identify bottlenecks and enhance database efficiency.

## PROJECTS

**Fuel Your Fitness (Next.js)**                                           *February 2025*
- Won the People's Choice Award at HackNYU X Google with an impressive total of 66 votes from fellow attendees.
- Developed an innovative web application that enables users to easily discover healthy dish options in nearby restaurants.
- Generated restaurant's datasets from Kaggle and integrated with the Google Maps API to display real-time food options.
- Implemented DeepSeek LLM to analyze and calculate the nutritional value of homemade food items with 83% accuracy.

**University Identification App (JavaScript, Solidity)**                   *November 2024*
- Developed an application to digitize the university ID card with a NFC to access buildings and replace the physical cards.
- Built a responsive and easy to navigate frontend with a MySQL backend for securely storing encrypted university IDs.
- Deployed a smart contract to encrypt private data and securely log all access activities on the blockchain for transparency.
- Integrated role-based access control to ensure secure authentication and prevent unauthorized entry into university facilities.

## SKILLS & INTERESTS

**Programming Languages:** Python, Java, MySQL, Solidity, JS, HTML, C, C++, Flutter, x86-64, LaTeX, PHP, Golang
**Technical Proficiencies:** Git, NumPy, Pandas, Sklearn, Matplotlib, Docker
**Interests:** Real Madrid, Indian Cricket Team, Bollywood, IPL, South Asian Cuisines, Boxing, Running