ELIFIA MUTHIA

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EDUCATION

School of Engineering & Applied Science, Columbia University | New York, NY — Expected May 2025
MS in Computer Science (Intended Track: Computer Security)

Barnard College, Columbia University | New York, NY — Expected May 2024
BA in Computer Science — GPA: 4.00
Dean's List (Fall 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022)
Relevant Coursework: Data Structures & Algorithms, Advanced Programming in C, Artificial Intelligence, Applied Statistical Computing, CS Theory, Linear Algebra, Calculus III, Computational Aspects of Robotics

TECHNICAL SKILLS & LANGUAGES

Technical: Java | Python (Numpy, Pandas, PyTorch) | C | R | MATLAB | Node.js | Unix/Linux | MySQL/PostgreSQL | MIPS | Git/GitHub | HTML/CSS | JavaScript | AWS S3 | AWS Redshift | REST APIs
Languages: Indonesian (Native) | Chinese (Elementary)

PROFESSIONAL EXPERIENCE

Emerest Connect | *Data Analyst, Part-Time* | New York, NY — Oct. 2022 - Present

- Developed automated scripts to generate routine reports for the nursing and social work department, streamlining the delivery process to insurance companies.
- Collaborated closely with various departments (software development, nursing, and social work) to plan and establish an efficient data infrastructure, ensuring smooth data flow across the organization.
- Implemented AWS Lambda functions to preprocess data from AWS S3 before loading it into Redshift, optimizing data handling and storage.
- Identified missing data requirements (e.g., for client deliverables) and devices strategies for data collection and integration into existing systems.
- Contributed to the planning and design of data storage and table structures in Redshift, providing valuable insights for efficient organization and shaping of data to support effective querying and analysis.
- Performed statistical analysis to assess the effectiveness of our social work programs in promoting wellness and reducing hospitalizations in our elderly patients.
- Wrote extensive documentation outlining processes, workflows, and system configurations to ensure clear understanding and facilitate seamless knowledge transfer within the organization.

Barnard Programming Languages Lab | *Research Assistant* | New York, NY — Jan. 2022 – May 2023

- Collaborated with Columbia's Neurological Institute to measure tremor severity in movement disorders.
- Refactored legacy MATLAB code to behave as a command line tool for seamless back-end execution.
- Developed a user-friendly web interface to collect patient spiral information, including pressure data.
- Implemented a Node.js web server, facilitating the connection between MATLAB code and the web interface enabling computation of patients' degree of severity (DoS) in tremors and for tracking treatment progress.
- Resolved data verification issues and performed fuzz tests to ensure accurate and consistent results across various machines and software versions.
- Identified and analyzed error patterns, establishing a mathematical relationship to align computation between the new system and legacy software.
- Attended weekly stand-up progress meetings to track project milestones and discuss debugging strategies.
- Presented the product to Dr. Seth Pullman, our client, for evaluation and its potential integration into his practice.

COMMUNITY INVOLVEMENT

Private Tutor | *Mathematics and Computer Science* | Jakarta, ID | New York, NY (Remote) — Dec 2019 – Present

- Tutored students at grades 3-12 for 2-4 hours a week on Mathematics and Computer Science.
- Enabled 3 students attain perfect scores in AP Computer Science A, AP Calculus AB, and IB Computer Science.