

Rayhan Divo Tanudjaja

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EDUCATION

Georgia Institute of Technology

B.S. in Mathematics w/ Business Option (Applied Mathematics Concentration)

Atlanta, Georgia

Expected Graduation, May 2028

ACS Jakarta

IB Diploma: 42/45

Jakarta, Indonesia

Jun 2024

SKILLS

Programming Languages: Python, Java, MATLAB, C++, Rust, C#, SQL, R

Libraries: NumPy, PyTorch, Pandas, scikit-learn, TensorFlow, OpenCV, Matplotlib

Software: Unity, Arduino, Microsoft Excel, Tableau, PowerBI

RESEARCH

Massachusetts Institute of Technology - EECS Department

Student Researcher (Research Science Institute Scholar)

Boston, Massachusetts

Jun 2023 – Aug 2023

- Developed a transformer model using PyTorch and NumPy for symbolic regression, achieving 87% accuracy in predicting equation symbols in five weeks; wrote first-author research paper and presented at symposium.
- Generated a dataset of 30K equations to train model on; employed CUDA-enabled GPUs for training, reducing computational time by approximately 50%.
- Selected as 1 of 100 worldwide for the Research Science Institute summer program, from >1800 applicants.

EXPERIENCE

Berca Engineering International | Microsoft Excel

Mechanical Engineering Intern

Jakarta, Indonesia

Jun 2024 – Jul 2024

- Designed advanced Excel spreadsheets with custom formulas, improving efficiency in heat exchanger and pressure vessel calculations by 20%.
- Proposed and implemented process improvements, such as optimizing employee productivity through better workplace design.

Wardaya College | LaTeX

Data Entry Intern

Jakarta, Indonesia

Oct 2021 – Dec 2021

- Entered and formatted >200 complex mathematical questions and solutions into a database using LaTeX, enhancing clarity and usability for exam preparation.
- Collaborated with the development team to improve database accessibility and ensure data integrity.

PROJECTS

TrueTouch: VR Haptic Glove Prototype | Rust, C#, Arduino

Atlanta, Georgia

- Designed and developed a VR haptic glove prototype that simulates tactile feedback by restricting finger motion upon interacting with virtual objects.
- Implemented real-time data fusion and low-latency communication using Bluetooth communication between the glove and Unity for accurate virtual interactions; implemented Kalman filter to reduce IMU errors.
- Trained a logistic regression model to streamline finger-bend angle calculations to optimize motion tracking.

Cafeteria Budgeting Tool | Java, SQL

Jakarta, Indonesia

- Developed a cafeteria budgeting app using JavaFX, optimizing weekly budget management for catering service by 4x.
- Improved data security and accessibility by integrating the app with a secure cloud-based SQL database.

ACTIVITIES AND LEADERSHIP

ACS Jakarta STEM/Coding Club

Club Co-Founder/Captain

Jakarta, Indonesia

Jul 2023 – Jun 2024

- Built drone equipped with cameras detecting survivors in rescue operations; won international robotics competition.
- Trained >20 members in competitive programming using C++ for the National Olympiad in Indonesia.