

Ryan Yeshaya Batubara

Rising Data Scientist with advanced
Computer Science and Mathematics background.

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EDUCATION

University of California, San Diego 2022 – 2026
Math-Computer Science, Data Science Double Major **3.97 GPA**

- **Key Coursework:** Machine Learning, Recommender Systems, Databases, Statistics, Linear Algebra, Graph Theory
- **Activities:** SUMS Math Club Workshops Chair, Origami Club

PROJECTS AND POSITIONS

UCSD Historical Enrollment Project Sept 2023 – Present
github.com/UCSD-Historical-Enrollment-Data/

- Scraped enrollment of 40000 UCSD classes/hour using Rust, Kubernetes, and Tmux on a Digital Ocean Droplet.
- Plotted 100s of GBs of enrollment data into 1000s of class plots / month using Python, Matplotlib, and Github Actions.
- **Technologies:** Rust for scraping , Python, Matplotlib for analysis , DigitalOcean, Tmux, Powershell, Github, for management

CSE PACE Undergraduate Mentor Sept 2023 – Present
pace.ucsd.edu

- Collaborated with other mentors in paid fellowship to guide first-year computing undergrads on academic, career, and technical topics.
- Organized food and event logistics for 100s of mentees weekly.
- Implemented latest CS educational research into mentor activities, based on UCSD and international faculty leadership.
- **Skills:** Presentation , Collaboration , Mentorship , Communication

GPU Artin-Mazur Height Research Jan 2024 – Present
github.com/UCSD-computational-number-theory/GPUFiniteFieldMatrices.jl

- Wrote first open-source Julia and CUDA.jl finite field linear algebra library, 1000 times faster than previous C implementations.
- Collaboratively optimize Artin-Mazur height computations to parallelize on the GPU using Quasi-F splits and Fedder's Criterion.
- **Technologies:** Julia, CUDA.jl for coding , Git, Supabase, Bash for management , LaTeX for writeup , Abstract Algebra for optimization

ACHIEVEMENTS

World Mathematics Invitational **Bronze** at *Seoul, Korea* in 2018
World Mathematics Invitational **Bronze** at *Fukuoka, Japan* in 2019

SKILLS

- 🔗 Python, Julia, C/C++, Matlab, R SQL, Kubernetes, Docker, Rust Qiskit, Regex, ARM, Java, LaTeX Git , Github , Bash , Powershell
- 📦 PyTorch , TensorFlow , Pandas Supabase , PostgreSQL , ScikitLearn NetworkX, SQLite, NumPy, SciPy Seaborn , Plotly , Matplotlib
- 📊 Machine Learning, Data Structures Data Visualization, Algorithms Data Mining, Recommender Systems
- 🌐 Astro, Javascript, CSS, Tailwind Svelte, HTML, mdx, OpenGraph
- 🗣 English, bilingual proficiency Indonesian, bilingual proficiency

ARTICLES AND TALKS

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| DATA | AirBnB ML Predictor |
| SCIENCE | rybplayer.github.io/AirBnB-Predictor/
Power Outages ML
rybplayer.github.io/PowerOutagesML/ |
| READINGS | Post-Quantum Cryptography
Commutative Algebra
Algebraic Topology |
| MATH | Puzzle Uniqueness Theorem
History of Math Puzzles
Computational Origami
Modern Origami Applications
https://github.com/rybplayer/Talks |

INTERESTS

Guitar , Video Games , Puzzles
Metal Crafts , Ink Drawing , PC Building