Ryan Yeshaya Batubara

Rising Data Scientist with advanced
Computer Science and Mathematics background.

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○ github.com/rybplayer

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 tha 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

SKILLS

</> Python · Julia · C/C++ · Matlab · R
SQL · Kubernetes · Docker · Rust
Qiskit · Regex · ARM · Java
Git · Github · Bash · Powershell

▤ PyTorch · TensorFlow · Pandas
Supabase · PostgreSQL · ScikitLearn
Seaborn · Plotly · Matplotlib

📈 Machine Learning · Data Structures
Data Visualization · Algorithms

🆎 English · bilingual proficiency
Indonesian · bilingual proficiency

ARTICLES AND TALKS

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

ACHIEVEMENTS

2018 World Mathematics Invitational
      Bronze Medal at *Seoul, Korea*

2019 World Mathematics Invitational
      Bronze Medal at *Fukuoka, Japan*

INTERESTS

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