

Zelan Eroz Espanto

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EDUCATION

Case Western Reserve University

Cleveland, Ohio

Bachelor of Science in Computer Science, Minor in Mathematics, GPA: 3.8

Expected Dec 2027

Coursework: Data Structures, Algorithms, Multivariable Calculus, Discrete Mathematics, Linear Algebra, Statistics (R)

Awards: Point Foundation x Wells Fargo Scholarship, United World College Davis Scholarship, Dean's High Honors List

Affiliations: Rewriting the Code, Association of Computing Machinery - Women, Society of Women Engineers,

Certifications: Cornell University Machine Learning Foundations

PROFESSIONAL EXPERIENCE

Provincial Disaster Risk Reduction and Management Office

Dinagat Islands, Philippines

Data Science and Machine Learning Intern

May 2025 - Present

- Contributed to climate research by addressing data and forecasting gaps in rural coastal regions of the Philippines.
- Developed an LSTM-based multivariate time-series model using TensorFlow, NumPy, and Matplotlib to forecast monthly Sea Surface Temperature Anomalies (SSTA) from 2000–2024 in Philippine Seas.
- Analyzed NOAA oceanographic data to examine links between SSTAs and typhoon intensification, supporting disaster mitigation and local conservation planning.

CWRU Quants

Cleveland, Ohio

Developer

Apr 2025 - Present

- Collaborates with a Senior Quant at KeyBank Capital to enhance the fidelity of backtest simulations by aligning trade execution logic and performance metrics with real institutional trading behavior
- Contributes to the development of a modular Python-based backtesting framework for simulating and validating trading strategies used by the research and trading teams.

Department of Computer and Data Sciences

Cleveland, Ohio

Teaching Assistant for CSDS 233: Introduction to Data Structures

Jan 2025 - Present

- Served as sole freshman TA in the university; supports 151 students through data structure implementations.
- Designed both theory-based and coding-based homeworks aligning them with course learning objectives; streamlined code submissions grading by developing rubric templates and custom testing scripts in Java.
- Spearheaded regrading policy creation to ensure grading consistency and fairness across sections.

Fish2Meta and Neurocybernetics Laboratory at Chubu University

Karuizawa, Japan

Pioneering Data Science Intern

Sep 2022 - Jan 2024

- Developed a custom Python pipeline to automate data extraction, cleaning, and visualization from whiteboard images containing EEG experiment results—cutting manual processing time by 50% and enabling consistent weekly analytics for the research team.
- Contributed to research on prism adaptation by designing reproducible workflows for time-series data preprocessing and exploratory data analysis, supporting hypothesis testing on cognitive and behavioral patterns.

PROJECTS

Truth or Truth | [GitHub](#)

June 2025

- Developed a responsive React web app inspired by Truth or Dare and We're Not Really Strangers, featuring deck selection, game state logic, and dynamic routing; deployed via Netlify with planned Firebase integration for player tracking.
- Led end-to-end product design and iteration for a digital social game encouraging meaningful conversations; conducted user flow planning in Figma and prioritized feature roadmap based on user feedback and engagement goals.

Baybai: Cross-Platform Mobile Application | [GitHub](#)

May 2024

- Built BayBai using Flask and Python to teach Baybayin, an endangered pre-colonial Filipino script, through interactive tracing, translation, and quiz modules; deployed in a public high school, reaching 90 students.
- Led full product lifecycle—user research, UI/UX prototyping, and iterative testing, and deployment.