

Luke Caprio

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SKILLS & ACTIVITIES

Programming Languages: Python (Pandas, NumPy, scikit-learn, PyTorch, Keras, TensorFlow), Java, C, SQL, JavaScript/TypeScript, R

Machine Learning & AI: Deep Learning (MLP, CNN), KNN, Agentic AI Systems, Multimodal/Voice AI, SVM, PCA, Linear & Nonlinear Regression

Tools & Framework: Git, React, AWS (Lambda, S3, IAM)

Languages: English (Fluent), French (Advanced)

Certifications & Training: AWS Cloud Computing Training

WORK EXPERIENCE

AI Software Engineering Intern – Retentive Labs Remote - May 2025 – August 2025

- Developed agentic AI tools for multimodal and voice-based interaction workflows
- Designed and refined Retell AI call flows to improve autonomous voice-agent behavior and reliability
- Contributed to full-stack development, assisting with both frontend interface design and system-level workflow logic
- Developed internal scripts and reusable templates that accelerated agentic feature development
- Worked with JavaScript, Python, AWS, and SQL across prototyping and integration tasks

Freelance AI & ML Trainer – Outlier Remote - June 2024 – Present

- Trained advanced generative AI models in coding and math, developing test cases and detailed feedback to improve model accuracy.
- Evaluated and optimized code generated in Java, Python, JavaScript/TypeScript, and C++.

INDEPENDENT PROJECTS

Deep Learning-Based ECG Signal Classification with MLP and CNN Models– Coral Gables, FL April 2024

- Designed and evaluated MLP and CNN architectures with residual connections for ECG signal classification, achieving over 85% accuracy on the test set.
- Implemented ReLU activations, batch normalization, and average pooling to enhance model performance and convergence.
- Gained experience with PyTorch and Keras for model development and ECG signal preprocessing.

Efficient Digit Recognition Using K-Means Clustering and KNN – Coral Gables, FL April 2024

- Designed and implemented a hybrid K-Means + KNN model for handwritten digit recognition, achieving substantial performance gains while maintaining high accuracy.
- Executed comprehensive data preprocessing (normalization, clustering, feature reshaping) to prepare large-scale digit datasets for modeling.
- Authored a formal technical report detailing methodology, experiments and results.

EDUCATION

University of Miami Coral Gables, FL

Bachelor of Science in Computer Science and Mathematics, Minor in French Expected Graduation: May 2026
Specialization in Data Science and Probability and Statistics

GPA: 3.81

Honors: Presidential Scholarship (\$15,000 per semester), 4x Provost's Honor Roll, Florida Bright Futures Scholarship