

YUN, OLIVER TAO

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EDUCATION

Carnegie Mellon University

B.S. in Artificial Intelligence + Statistics & Machine Learning

Selected Coursework: Data Structures & Algorithms, Principles of Functional Programming, Theoretical Computer Science, Probability & Statistical Inference, Machine Learning.

Aug. 2023 – May 2027

QPA: 4.00/4.00 (Dean's List)

EXPERIENCE

Machine Learning Engineer Intern | Glodon

May 2024 – Jul. 2024

- Developed a novel representation of CAD sequences for input to a CAD generation transformer, resulting in 97% and 92% accuracy for sketch operation and curve type categorization, and 0.04 MSE for coordinate regression.
- Developed a transformer decoder-based network that, given a 2-dimensional sketch as input, generates sketch operations to construct the image as a CAD sequence.
- Created a comprehensive visualization tool using Matplotlib and Gradio to analyze a codebook of architectural models, enhancing the interpretability of complex data representations.

Backend Developer, VP of Finance | Carnegie Mellon Data Science Club

Dec. 2023 – Present

- Developed a match result handling system for a poker AI competition, integrating AWS SQS for real-time result processing and AWS S3 for match logging, enabling analysis of bot actions and match outcomes.
- Managed a comprehensive \$20000 budget, allocating funds to support a variety of club activities including workshops, guest speaker events, mentorship programs, social gatherings, and competitions.
- Implemented financial strategies and controls to ensure transparency and accountability in budget management, including expenditure tracking, financial needs forecasting, and presenting financial reports to club leadership.

Teaching Assistant | Principles of Imperative Computation

Aug. 2024 – Present

- Led two precepts sections for over 70 students, delivering lectures and facilitating discussions on key topics such as algorithm design, memory tracing, point-to proofs, and data structures.
- Collaborated with the course instructor to evaluate and refine course curriculum based on student feedback and performance metrics. Assisted in the creation and refinement of course materials.

PROJECTS & RESEARCH

Bidirectional Auto-Regressive Transformer for Synopsis Generation | [GitHub](#)

- Fine-tuned a Bidirectional Auto-Regressive Transformer model to generate anime synopses based on genre inputs, leveraging the transformers library and PyTorch and achieving a cross-entropy loss of 0.023.
- Engineered a data process to tokenize a large dataset of anime genres and synopses, utilizing pandas for data manipulation and tokenization functions to handle variable-length inputs.

Meta-Learning Based Water-Level Prediction | [Paper](#), [GitHub](#)

- Developed a novel meta-learning approach to enhance water-level prediction accuracy, achieving a mean squared error of 0.00055, a reduction of 65.81% compared to a traditional Long Short-Term Memory model.
- Conducted a literature review and analysis of existing methods, leading to the formulation of a meta-learning framework that adapts to varying data distributions and improves model performance.

Ideal Boarding Methods with Cellular Automaton | [Paper](#), [GitHub](#)

- Implemented a Cellular Automaton simulation to model various boarding strategies, conducting a thorough comparative analysis of a proposed method against existing boarding techniques.
- Proposed a novel boarding and disembarking method for aircrafts, which achieved an 18.21% reduction in boarding and disembarking time compared to traditional methods.

SKILLS

- **Programming Languages & Tools:** Python, C, Java, Standard ML, Git, AWS.
- **Data Science & Machine Learning:** Numpy, Pandas, Scikit-Learn, Linear Regression, Logistic Regression, Decision Trees, Matplotlib, Gradio, PyTorch, MLP, CNN, LSTM, Transformers.