David Yang

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Education

2021 – 2025
Los Angeles, CA

Bachelor of Science, Computer Science, *Loyola Marymount University*
Awards & Honors: Arrupe Merit Scholarship (2021-2025); ***GPA***: 3.6
Relevant Coursework:
Artificial Intelligence, Machine Learning, Natural Language Processing, Cognitive Systems Design, Mobile & Web Application Development, Algorithms & Analysis, Data Structures & Applications, Database Systems
Calculus I, II, Discrete Mathematics, Probability & Statistics, Applied Linear Algebra
Affiliations: LMU Association for Computing Machinery (2021-2025)

Projects

03/2025 – 05/2025

VisualAnnotation
- Designed and implemented a CNN-Transformer image captioning system with PyTorch, achieving competitive BLEU-4 and CIDEr scores on the COCO dataset
- Optimized training on a cloud H100 GPU via mixed precision, gradient accumulation, and memory-efficient data loading, cutting training time by 65% without compromising quality
- Enhanced caption generation by implementing beam search with temperature sampling to improve output diversity and accuracy

08/2024 – 12/2024

Coursepilot
- Developed a full stack AI powered study tool built on NextJS and FastAPI that augments course materials and user notes into interactive study materials like flashcards and quizzes
- Implemented a Retrieval Augmented Generation (RAG) pipeline to ground LLM outputs, reducing hallucinations and making study materials more relevant to topics in notes
- Utilized MongoDB Atlas to manage user data persistence, PDF object storage, and high dimensional vector embeddings, allowing for unified querying of user metadata and vector context

Experience

05/2024 – 09/2024
Los Angeles, CA

Co-Lead Researcher, *Loyola Marymount University*
- Engineered a multi-agent Causal RL framework integrating Causal Bayesian Networks and Structural Causal Models to distinguish causal mechanisms from spurious correlations
- Achieved 47% higher cumulative rewards over Exact-Q learning by using Neural Networks to estimate causal effects, replacing slow Monte-Carlo rollouts with efficient planning

05/2023 – 09/2023
Los Angeles, CA

Software Engineer Intern, *Kropply*
- Implemented a real time error ingestion pipeline using WebSockets to stream runtime exceptions from the client, delivering AI generated solutions with sub-200ms latency
- Developed an automated onboarding system using Mailgun to manage access provisioning and email sequences, scaling beta usership for over 1,000 early adopters

Skills

Programming Languages:
Python, Javascript, Typescript, Swift, Java, C/C++, HTML, CSS, Go, SQL

Frameworks & Libraries:
Pytorch, React, Node.js, NextJS, FastAPI, Flask, LangChain, LlamaIndex, pgvector, Docker