CODY LEJANG

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EDUCATION

Carnegie Mellon University — **May 2026**
Master of Science, Data Analytics for Science — *Pittsburgh, PA*

University of California, Los Angeles — **June 2025**
Bachelor of Science, Cognitive Science, Specialization in Computer Science — *Los Angeles, CA*
Data Science Engineering Minor

EXPERIENCE

COLUMBIA ENGINEERING — **May 2025 - present**
Machine Learning Researcher — *New York, NY (remote)*

- Conducted research on similarities of human behavior and machine learning agents in decision theory
- Constructed a 2-armed bandit RL agent (discounted Beta–Bernoulli updates; softmax action selection) generating 450-trial datasets simulating human behavior
- Implemented a 3-step LSTM (stimulus, decision, feedback) with block-wise resets; BPTT/Adam training reached 75% decision accuracy
- Designed linear/logistic probes to decode latent variables from hidden states: utility difference, choice, and reward-prediction error with an R^2 of 0.92.
- Engineered a PyTorch pipeline for time-resolved probing of hidden states and population "percent-excited" metrics to research similarities to preSMA temporal dynamics

SYNAPTIC — **Mar 2024 - Mar 2025**
Software Developer — *Newport Beach, CA*

- Engineered daily updating, dynamically optimized stock portfolio framework, allowing financial advisors to outperform static allocations by 15% and beat the S&P 500 over a one year test set
- Synthesized insider transactions, trend projections, and cash flow information into lag regression model using Python by aggregating ORATS API, pypoft, and time series databases
- Developed helper LSTM predicting stock trends from time series databases, achieving a close price RMSE under $7
- Translated previous MATLAB pipeline into automated Python, Git, and shell script stack, improving runtime by 70%

KARDDER — **Dec 2023 - Feb 2024**
UI/UX Intern — *Los Angeles, CA*

- Collaborated with a team of 20 interns and designed 7 interface prototypes for social networking app; based on Firebase's Google Analytics, tripled users' average session duration from 2.5 minutes to 7.5 minutes
- Conducted in-person market research across 30+ popular venues, gaining insights from over 500 potential users to shape key product features and marketing strategies
- Spearheaded design of location heatmap interface in Figma, increasing engagement by 30%, based on A/B testing

PROJECTS

Digiclo | *React Native, Tailwind CSS, Hugging Face Transformers, PyTorch, MongoDB, FastAPI*

- Developed a full stack React Native app styled with Tailwind CSS and backed by MongoDB, enabling users to upload, browse, and filter their digital wardrobe through a mobile interface
- Built FastAPI item autotagger using Hugging Face BLIP to caption images and spaCy filters to emit top-k tags
- Presented the app to 100+ students and professors at a UCLA-hosted HCI conference

Eyewitness Testimony Simulation | *Python, PsychoPy, Torch, MTCNN, Facenet*

- Programmed signal detection experiment in PsychoPy to study impact of exposure duration on eyewitness testimony, gathering data from over 30 participants
- Constructed a computer vision pipeline using MTCNN / FaceNet to simulate "machine witness," beating human performance on every valid trial

Personal Portfolio Website | *React, Tailwind CSS, Framer Motion, Vite*

- Engineered and deployed an archive fashion–inspired personal site using Tailwind CSS, Vite, and React
- Implemented animation logic with Framer Motion for free-flow interface

SKILLS

- **Languages**: Python, C++, R, SQL, HTML, Javascript, CSS, Bash
- **Tools**: Tensorflow, Hugging Face, Spark, PyTorch, Scikit-Learn, CUDA, MPI, React, Pandas, Figma, Git
- **Coursework**: Object Oriented Software Development, Data Structures, Decision Theory, Machine Learning, Signal Detection Theory, Natural Language Processing, Database Systems, Human Computer Interaction, Parallel Computing