Nuo Wen Lei

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EDUCATION

Brown University, *B.S in Computer Science*, 4.00/4.00 GPA — Providence, RI | **Expected Graduation May 2026**
Relevant Courses: Deep Learning, Computer Systems, Software Engineering, Computer Vision, Honors Statistical Inference, Data Engineering, Machine Learning, Data Science, Multivariable Calculus, Linear Algebra, Discrete Math, Functional Programming
Organizations: Brown Entrepreneurship Program Tech Team, Brown Machine Intelligence Community (B-MIC)
Certificates: Advanced Data Science with IBM, Machine Learning Engineering for Production (MLOps)

SOFTWARE EXPERIENCE

Microsoft, *Software Engineering Intern* — Redmond, WA | Jun 2024 – Aug 2024
- Built example web apps with Next.js for the Face Liveness SDK in Azure AI Platform
- Engaged in weekly standup meetings with the broader Face Analysis team to discuss roadmaps and progress

Brown University, *Undergraduate Teaching Assistant* — Providence, RI | Jan 2024 – May 2024
- Improved Computer Vision conceptual questions about image feature extraction for 130+ students
- Implemented and deployed partial credit system on autograding server using Python, which will be used in all current and future iterations of the course
- Answered or assisted on 40+ course forum questions about programming assignments and conceptual questions
- Responded to and fixed on-call autograding server issues with Python
- Held weekly office hours for questions on course material, averaging 10+ assisted students per session

QuantGuide, *Founding Engineer* — Virtual | May 2023 – Nov 2023
- Deployed website frontend makeover using React.js with Next.js, directly impacting the online experience of 7000+ users
- Collaborated with content and engineering team members in an agile environment with Kanban to push this startup into the Y Combinator accelerator program
- Integrated Firebase to respond to all content queries and record all user interactions with the website, including profile changes, likes and dislikes, and question notes, which sums up to 1M+ reads and writes per day
- Developed and delivered new features such as an auto-generating mental math game that has been played for 16000+ times

Numerai, *Software Engineer Intern* — San Francisco, CA | Jun 2023 – Aug 2023
- Deployed a machine learning model that has a 22% higher Sharpe in backtest than the previous model into production with more than $100 million in Assets Under Management
- Backtested and documented 200+ ensemble model configurations in AWS Sagemaker using Python to optimize for Sharpe Ratio while minimizing Churn Rate, Market Exposures, and other risk metrics
- Proposed and validated a new metric with Pandas Python library for 2000+ users to measure the uniqueness of their alpha submissions based on correlation to other users

LEADERSHIP EXPERIENCE

Brown Machine Intelligence Community, *Executive Board* — Providence, RI | Oct 2022 – Current
- Taught 100+ students high-level topics of Generative Pretrained Transformers for language modeling and Machine Learning model training practices with the rest of the Teaching and Content team
- Led and taught 60+ students high-level topics of Neural Style Transfer for art image processing with the rest of the Teaching and Content team

PROJECT EXPERIENCE

Dynamic Environment Generation with Image Diffusion, *Tech Lead*
- Collaborated with 2 people to develop a deep learning model for our Masters level Deep Learning class
- Innovated on a Latent Action Model using TensorFlow that learns video game actions without any action input data
- Built and trained a U-Net diffusion model from scratch using Keras that generates video frames based on action conditions
- Developed video preprocessing pipelines with TensorFlow, Keras, and NumPy to efficiently compress 700,000 video frames
- Presented our innovations to 40+ professors, PhD students, and classmates
- GitHub Repo

SKILLS & INTERESTS

Technical Skills: Python, Javascript, Typescript, R, Java, SQL, HTML/CSS
Development Tools: GitHub, Docker, Amazon Web Services (AWS), Microsoft Azure
Language: Bilingual proficiency in Mandarin Chinese and English
Interests: Tennis, Basketball, Squash, Minecraft