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)

WORK EXPERIENCE

Microsoft, *Software Engineering Intern* — Redmond, WA | Jun 2024 – Current
- Deployed Face Liveness SDK example web apps for various device layouts in Next.js, Angular, and Vue.js using a .NET server stack on Microsoft Azure App Service, accelerating the setup process and improving demo accessibility for developers
- Published and documented SDK integration examples for multiple web frameworks, enhancing customer experience
- Configured Azure DevOps pipelines in YAML to automate build, deployment, and testing using continuous integration and continuous deployment (CI/CD), reducing manual errors and speeding up development cycle
- Engaged in weekly standup meetings with the Face Liveness and Azure AI Platform team to discuss roadmap and progress

Brown University, *Undergraduate Teaching Assistant* — Providence, RI | Jan 2024 – May 2024
- Improved Computer Vision conceptual questions for 130+ students, deepening student understanding on image extraction
- Implemented partial credit system on autograding server using Python, correcting the grades of 100+ submissions
- Answered or assisted on 40+ course forum questions about programming assignments and conceptual questions
- Held weekly office hours for questions on course material, averaging 10+ assisted students per session
- Mentored final projects about facial emotion detection and 3D reconstruction from drone footage

QuantGuide, *Founding Engineer* — Virtual | May 2023 – Nov 2023
- Led website frontend development using React.js with Next.js, impacting 7000+ users
- Worked with content and engineering team members in an agile environment with Kanban helping the startup join the Y Combinator accelerator program (YC)
- Integrated Firebase realtime database to handle content queries and record all user interactions with the website, including profile changes, likes, dislikes, and question notes, totaling 1M+ daily reads and writes
- Developed and delivered new features including 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 improved Sharpe Ratio by 22% in backtests, managing over $100 million in assets
- 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 160+ university students high-level topics in language modeling and image processing including Generative Pretrained Transformers (GPT) and Neural Style Transfer with the Teaching and Content team of 10+ members
- Developed interactive teaching material used 400+ times with Jupyter Notebook to guide the model development process

PROJECT EXPERIENCE

Dynamic Environment Generation with Image Diffusion, *Tech Lead*
- Led a team of three to develop an interactive video generation model for a Master's level Deep Learning class
- Engineered a Latent Action Model using TensorFlow, learning unsupervised video actions without any data on interactivity
- 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 Project Repository

SKILLS

Technical Skills: Python, Javascript, Typescript, R, Java, C#, SQL, HTML, CSS
Development Tools: GitHub, Docker, Amazon Web Services (AWS), Microsoft Azure, Google Cloud
Web Frameworks: Django, Flask, FastAPI, Next.js, Vue.js, Angular, Node.js, .NET
Language: Bilingual proficiency in Mandarin Chinese and English