Nuo Wen Lei

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EDUCATION

Brown University, *Sc.B. 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 the **ASP.NET server stack** on **Microsoft Azure App Service**, cutting setup steps by half and improving demo accessibility
- 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

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
- 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** for project tracking helping the startup join the **Y Combinator accelerator program (YC)**
- Integrated **Firebase Firestore** 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 with TypeScript including an auto-generating mental math game played **16000+ times**

Numerai, *Software Engineering Intern*   San Francisco, CA | Jun 2023 – Aug 2023
- Deployed a **machine learning model** improving **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**
- Developed interactive teaching material used **400+ times** with **Jupyter Notebook** to guide the model development process

PROJECTS

Dynamic Environment Generation with Image Diffusion | *Python, TensorFlow, NumPy*
- 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 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, ASP.NET
Language: Bilingual proficiency in Mandarin Chinese and English