Bob (Jue) Guo

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Professional Summary

Jue Guo is a Ph.D. candidate in Computer Science specializing in machine learning, with extensive experience teaching graduate-level courses such as **Machine Learning**, **Deep Learning**, and **Algorithm Analysis and Design**. His research expertise spans **image classification** and **natural language processing**. Skilled in **Python**, **JavaScript**, and frameworks including **PyTorch** and **TensorFlow**, Jue effectively translates complex algorithms into practical solutions.

Jue currently holds a valid Employment Authorization Document (EAD) and does not require employer sponsorship. His permanent residency application is in progress.

Education

The State University of New York at Buffalo — Buffalo, NY
PhD, Computer Science — *August 2022 – Current*

The State University of New York at Buffalo — Buffalo, NY
Master of Science, Robotics and Artificial Intelligence — *August 2020 – June 2022*

Wake Forest University — Winston-Salem, NC
Bachelor of Science, Computer Science — *August 2015 – May 2019*

Experience

Adjunct Faculty — July 2023 – Present
University at Buffalo — *Buffalo, NY*

- Instructed 5 graduate-level CS courses, including AI, ML, and Deep Learning, to over 300 students, focusing on real-world applications and algorithmic problem-solving.
- Designed and implemented course curriculum integrating theoretical ML concepts with hands-on labs using PyTorch and TensorFlow.
- Mentored over 20 graduate students through thesis projects in machine learning and AI, providing technical feedback on model development and paper writing.

Graduate Teaching Assistant — August 2022 – May 2023
University at Buffalo — *Buffalo, NY*

- Conducted weekly recitation sessions and 1-on-1 mentoring for 200+ students in Machine Learning and Deep Learning courses, using real-world case studies and frameworks like PyTorch to reinforce concepts.
- Held weekly office hours to support student mastery of ML topics such as backpropagation, CNNs, LLMs, and optimization, contributing to increased student engagement and positive feedback.

Machine Learning Engineer — June 2019 – August 2020
Zhejiang University, Zhejiang Society for Mathematical Medicine — *Hangzhou, China*

- Developed a deep learning-based bone age detection system using CNNs to assist orthopedic diagnostics at Zhejiang No.1 People's Hospital
- Collaborated with a team at Zhejiang University to implement machine learning algorithms for medical imaging analysis.
- Applied image preprocessing, augmentation, and CNN-based feature extraction using PyTorch, resulting in more accurate and robust diagnostic outcomes.

Skills

- **Programming:** Python, C++, Java, JavaScript
- **Machine Learning:** PyTorch, TensorFlow, Scikit-learn
- **Data Analysis:** NumPy, pandas, Matplotlib, Seaborn
- **Tools & DevOps:** Git, Docker, Linux, Weights & Biases
- **Professional Skills:** Curriculum Design, Technical Writing, Research, STEM Teaching

Teaching Experience

Adjunct Faculty, University at Buffalo Summer 2023 – Current

Courses Taught

- **Fundamentals of Artificial Intelligence** (EAS 510LEC), Spring 2025 – 38 students
- **Deep Learning** (CSE 676LEC), Fall 2024 – 54 students, Fall 2023 – 42 students
- **Introduction to Pattern Recognition** (CSE 455/555), Summer 2024 – 26 students, Summer 2023 – 58 students
- **Introduction to Machine Learning** (CSE 474/574), Spring 2024 – 221 students