Jinge Wang

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Education

West Virginia University *Morgantown, WV, U.S.*
Ph.D. in Computer Science *Aug 2016 - May 2023*
- Specialized in artificial intelligence, data analysis, and signal processing.
- Completed advanced coursework in algorithms, pattern recognition, data mining, and neural networks.

West Virginia University *Morgantown, WV, U.S.*
Master of Science in Statistics *Aug 2013 - Dec 2015*
- Gained expertise in statistical methodologies and data analysis, with a focus on SAS programming and regression modeling.
- Completed courses in experimental design, categorical data analysis, and applied regression.

Anhui University of Finance and Economics *Anhui, China*
Bachelor of Management *Sep 2007 - Jul 2011*
- Acquired foundational knowledge in business and management principles.

Experience

Polygon Health Analytics *Remote*
Data Scientist *10/2024 - Present*
- Developed AI-driven solutions leveraging real-world data (RWD) to enhance healthcare outcomes and clinical research.
- Collaborated with cross-functional teams to implement machine learning models, improving operational efficiency in healthcare systems.

West Virginia University *Morgantown, WV*
Postdoctoral Fellow *10/2023 - 09/2024*
- Advanced AI integration with bioinformatics, focusing on multimodal large language models for image analysis in computational biology.
- Developed novel algorithms to improve the accuracy of AI-driven biological data interpretation.

HaoHan Technologies, LLC *Clarksville, MD*
Data Analyst Intern *05/2023 – 10/2023*
- Analyzed county-level Medicaid data to provide actionable insights for public mental health services.
- Built automated workflows and generated statistical reports to support policy decision-making.

West Virginia University *Morgantown, WV*
Graduate Research Assistant *01/2018 - 05/2023*
- Developed deep learning models for image analysis, neural network interpretability, and neuroscience research.
- Collaborated on interdisciplinary projects in agriculture and medicine, delivering data-driven solutions.

Projects

LLM for Clinical Insights and Scientific Evaluation *2024 - 2025*
- ***Keywords:*** LLM, Prompt Engineering, RAG, AWS, Web UI
- Applied LLMs to extract clinical indicators from free-text pathology reports. Developed a web-based evaluation platform to facilitate expert review and iterative improvement of outputs. Employed GPT-4V for classifying dermoscopic images, improving melanoma detection by 25%. Benchmarked LLM performance on figure interpretation tasks in oncology studies. Explored AI fairness and risk of AI-assisted writing misattribution in scientific publishing.

User-Centered iOS App Development *2025 - 2025*
- ***Keywords:*** Mobile Health, UI/UX, Patient Data Integration, FHIR
- Designed and solely developed iSMILE, an iOS app to support lupus patients with risk prediction and care recommendations. Integrated EHR data and social factors using privacy-preserving workflows. Emphasized accessibility and health equity by aligning app design with patient needs. Included a self-reported symptom tracker and user forum for enhanced engagement and experience.

Modeling Neural Coding with Deep Learning *2020 - 2023*
- ***Keywords:*** DNN, Grad-CAM, GAN, Neural Coding, SVM, ANOVA
- Simulated face identity recognition mechanisms in primate and human brains using deep neural networks. Identified critical learning phases in DNNs and proposed recovery techniques. Applied feature visualization and manipulation to replicate neural coding strategies, demonstrating strong alignment between learned features and neural responses in the amygdala and hippocampus.

Skills

Programming Python (Pandas, PyTorch, NumPy, Scikit-learn, Matplotlib, etc.), Matlab, R, SAS, Vibe coding
Miscellaneous LLM, Git, AWS, Linux, LaTeX, Microsoft Office

Publications

- **J Wang**; et al. ”ChatGPT-Polished Writing Boosts the Risk of Human-Authored Manuscripts Being Miscredited as AI-Generated.” *JAADi.* (2025).
- R Cao; **J Wang**; et al. ”Feature-based encoding of face identity by single neurons in the human amygdala and hippocampus.” *Nat. Hum. Behav.* (2025).
- **J Wang**; et al. ”Limitations and risks of custom GPTs in dermatology. Comment on ’ReconGPT: A novel artificial intelligence tool and its potential use in post-Mohs reconstructive decision-making’.” *JAAD.* (2025).
- **J Wang**; et al. ”Preliminary evaluation of ChatGPT model iterations in emergency department diagnostics.” *Sci. Rep.* (2025).
- Z Feng; G Hu; B Li; **J Wang**. ”Unleashing the power of ChatGPT in finance research: opportunities and challenges” *FIN.* (2025).
- **J Wang**; et al. ”Adapting ChatGPT for Color Blindness in Medical Education.” *Ann Biomed Eng.* (2025).
- **J Wang**; G Hu. ”Boosting GPT-4V’s accuracy in dermoscopic classification with few-shot learning. Comment on ’Can ChatGPT vision diagnose melanoma? An exploratory diagnostic accuracy study’.” *JAAD.* (2024).
- **J Wang**; et al. ”Bioinformatics and Biomedical Informatics with ChatGPT: Year One Review.” *QB.* (2024).
- **J Wang**; et al. ”Scientific Figures Interpreted by ChatGPT: Strengths in Plot Recognition and Limits in Color Perception.” *NPJ Precis. Oncol.* (2024).
- S K Valicharla; **J Wang**; et al. ”Morning Glory Flower Detection in Aerial Images Using Semi-Supervised Segmentation with Gaussian Mixture Models.” *Agric. Eng.* (2024).
- **J Wang**; et al. ”A critical period for developing face recognition.” *Patterns.* (2024).
- R Cao; **J Wang**; et al. ”Neural mechanisms of face familiarity and learning in the human amygdala and hippocampus.” *Cell Reports.* (2024).
- **J Wang**; R Cao; et al. ”Face identity coding in the deep neural network and primate brain.” *Commun. Biol.* (2022).
- X Xu; X Xiong; **J Wang**; X Li. ”Deformable kernel convolutional network for video extreme super-resolution.” *ECCV Wksp.* (2020).

Achievements

- Oral presentation at TRCCC 2024
- ECCV 2020 AIM: Advances in Image Manipulation workshop and challenges Runner-Up Award
- SAS Certified Base Programmer for SAS 9
- SAS Certified Advanced Programmer for SAS 9
- **Certificate**: Prompt Engineering for ChatGPT - Vanderbilt University
- **Certificate**: Python Essentials for MLOps - Duke University
- **Certificate**: Supervised Machine Learning: Regression and Classification - DeepLearning.AI, Stanford University
- **Certificate**: Introduction to Large Language Models - Google Cloud
- **Certificate**: Introduction to Healthcare - Stanford University