Jinge **Wang**

Data Scientist · AI & Predictive Modeling

(+1) 304-376-8558 | jinge0829@gmail.com | JingeW.github.io | jingew | JingeW

Summary

Data Scientist with 5+ years of experience developing and deploying machine learning models that turn complex data into actionable insights. Skilled in predictive modeling, feature engineering, and statistical learning using Python and modern ML frameworks. Experienced in leading projects, mentoring junior team members, and collaborating across disciplines to deliver reliable, production-ready data solutions. Recognized for combining strong analytical rigor with practical implementation to improve decision-making and operational performance.

Core Competencies

Technical	Python, R, SQL, AWS, Git, Docker, Jupyter, Linux, LaTeX
ML & AI	Predictive Modeling, Deep Learning, LLMs, Multimodality, Feature Engineering, Data Visualization, Model Explainability
Leadership	Team Mentorship, Project Management, Cross-Functional Collaboration, Stakeholder Communication, Agile Workflows

Work Experience

Polygon Health Analytics LLC — *Remote*

Data Scientist — *Oct 2024 – Sep 2025*

- Led data science programs leveraging large-scale real-world datasets to support AI-driven analytics and applications.
- Designed and deployed LLM-based pipelines to extract pathology indicators from reports, improving accuracy and efficiency.
- Supervised and mentored four interns across projects including Vaccine Vibes, iSMILE, and FDA RWE Analysis.
- Engage stakeholders to present solutions, gather feedback, and iteratively refine products to align with user needs and strategic objectives.
- Collaborated with software engineering and executive teams to deliver data products under tight timelines.

West Virginia University — *Morgantown, WV*

Postdoctoral Fellow — *Oct 2023 – Sep 2024*

- Led independent AI research applying large language models to real-world analytical tasks and data integration challenges.
- Adapted LLMs through prompt engineering and RAG to enable domain-specific automation and decision support.
- Developed end-to-end pipelines demonstrating practical AI deployment and published key findings in peer-reviewed journals (JAAD, FIN).
- Mentored students and collaborated across technical and analytical teams to guide project design and model evaluation.

West Virginia University — *Morgantown, WV*

Graduate Research Assistant — *Jan 2018 – May 2023*

- Carried out large-scale data-driven studies using advanced machine learning methods to extract patterns and validate hypotheses.
- Managed large image datasets (100k+) with efficient preprocessing, feature extraction, and experiment tracking pipelines.
- Developed deep learning models and analytical frameworks for representation learning and interpretability.
- Collaborated across disciplines to publish peer-reviewed studies showcasing data-science–driven research innovation.

Selected Projects

MAGIC Platform — Pathology Indicator Extraction and Multimodal Analytics

- Developed MAGIC, a multimodal data integration platform supporting the NIH Cancer Research Data Commons (CRDC) ecosystem for unified analysis of genomics, imaging, and clinical datasets.
- Architected a serverless AI pipeline using AWS Textract, Lambda, Step Functions, and GPT-4 to extract key pathology indicators from unstructured PDFs, achieving over 90% efficiency improvement versus manual workflows.
- Built a dedicated evaluation web app enabling pathologists to visualize, review, and validate model outputs, enhancing transparency and usability.
- Extended MAGIC to support multimodal survival prediction and cBioPortal export by integrating RNA-seq and pathology WSI features into deep-learning models for outcome analysis.

iSMILE Mobile App — AI-Enabled Health Management for SLE

- Developed a local-first iOS app using AI-assisted coding to support individualized health management for lupus (SLE) patients.
- Implemented core modules including authentication, profile, EHR integration, risk prediction, and community forum with secure on-device data handling.
- Integrated EHR and external datasets into predictive models for personalized care recommendations and optimized UX through stakeholder feedback.
- Guided an intern to enhance app functionality and streamline feature optimization.

Vaccine Vibes — LLM Optimization for Vaccine Newsletter

- Led a team of two interns to improve AI-powered vaccine-news classification through prompt engineering and hierarchical filtering.
- Enhanced classification accuracy by 30% and reduced duplication in topic clustering for large-scale content streams.
- Benchmarked multiple LLMs to identify optimal models for efficient news summarization and deployment.

Education

West Virginia University — *Morgantown, WV*

Ph.D. in Computer Science — *Aug 2016 – May 2023*

- Specialization in Artificial Intelligence, Data Analysis, and Signal Processing.

West Virginia University — *Morgantown, WV*

M.S. in Statistics — *Aug 2013 – Dec 2015*

- Focus on Statistical Modeling, Regression, and Experimental Design.

Anhui University of Finance and Economics — *Anhui, China*

B.M. in Accounting — *Sep 2007 – Jul 2011*

- Completed foundational coursework in management and accounting.

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)

Certificates

2023 **Prompt Engineering for ChatGPT**, Vanderbilt University

2023 **Python Essentials for MLOps**, Duke University

2023 **Supervised Machine Learning: Regression and Classification**, DeepLearning.AI, Stanford University

2023 **Introduction to Large Language Models**, Google Cloud

2023 **Introduction to Healthcare**, Stanford University

2015 **SAS Certified Advanced Programmer for SAS 9**, SAS Institute

2015 **SAS Certified Base Programmer for SAS 9**, SAS Institute

Honors & Awards

2024 **Oral presentation**, TRCCC

2020 **Advances in Image Manipulation workshop and challenges Runner-Up Award**, ECCV AIM