Junxing (J.C.) Chen

jcchen0331@gmail.com | +1-437-982-0331

Portfolio Website | GitHub | LinkedIn

Skills

- **Programming Languages:** Python, MATLAB, SQL, R, Docker, Git, Django, Flask, Kubernetes, JavaScript, etc.
- **Machine Learning:** TensorFlow, PyTorch, Hugging Face, Cloud Platform(GCP, Watson, Azure, AWS), Gen AI, Large-Language-Models (LLMs), Computer Vision, Text-Audio Models, Transformers, Data Visualization, etc.
- **Mathematics:** Statistical Modeling, Bayes' Theorem, FDM, Linear Algebra, MCMC, etc.
- **General:** Teamwork, Research, Problem Solving, Scientific Writing, Presentation, etc.

Experience

Machine Learning Researcher   Remote, Canada | June 2023 - Present
- Developed a multi-modal transformer model combining vision, audio, and text data, improving accuracy by 25% in comprehensive analysis tasks
- Deployed and fine-tuned ML models on cloud platforms for customized AI-assistant applications.
- Designed 10+ computationally efficient, domain-specific ML projects, reducing costs by 30%.
- Evaluated 50+ research papers to integrate cutting-edge ML techniques into projects.

Data Scientist | IBM | Contract Full-time   Markham, Canada | September 2022 - June 2023
- Led the fine-tuning and deployment of LLMs (e.g., Llama, Mistral, GPT-4) for AI assistant applications, resulting in a 15% improvement in response accuracy.
- Utilized computer vision models for real-time object detection and image segmentation, achieving 95% precision in tasks.
- Designed fraud detection and customer behavior prediction models using banking data, enhancing detection rates by 30%.
- Utilized GANs and diffusion models for image content creation, increasing efficiency by 20%.
- Deployed text-to-audio models for natural-sounding speech synthesis and voice cloning, increasing user engagement by 25%.
- Managed a team of 10 professionals and created top-rated (4.7/5) data science instructional content for the Skills Network.

Research Fellow | University of New Mexico | Visiting Scholar   Albuquerque, USA | June 2017 - September 2017
- Processed Brillouin laser experiments data, published in Scientific Reports.

Data Analyst | CNPC Logging, Southwest | Contract Full-time   Chongqing, China | June 2016 - September 2016
- Analyzed and visualized electrode resistivity and gamma-ray logging data, improving data interpretation accuracy by 20% for multi-million-dollar natural gas projects.

Education

Doctor of Philosophy
University of Toronto   Toronto, Canada | August 2018 - November 2023
- Authored six papers in esteemed scientific journals; presented at AGU and Goldschmidt.
- Recipient of the Naldrett A.J. Scholarship and the Nowlan Explorers' Scholarship.
- Developed thermodynamic software DIFFUSUP, published in Applied Computing and Geosciences, used by 200+ researchers.
- Modeled Venus and Earth tectonics; published in Nature Communications.
- Applied MCMC techniques to analyze geochemical processes; published in the Journal of Petrology.
- Instructed over 500 students in environmental, Earth science, and numerical modeling courses.

Bachelor of Science
University of Science and Technology of China   Hefei, China | August 2014 - June 2018
- Awarded outstanding student scholarship (Top 5% student award).
- Analyzed geochemical isotopic data analysis from (MC-)ICP-MS measurement.