JAMES ALAN CHAPMAN

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Graduate student returning to work after C5 spinal cord injury seeking a remote, flexible internship for summer 2025.

EDUCATION

CURRENT **Kansas State University** | **Master of Science in Computer Science** | Advisor: Dr. William Hsu
• Research Group Member: Knowledge Discovery in Databases (KDD) Laboratory

DEC 2022 Fort Hays State University | Post-Bacc in **Computer Science**

DEC 2014 University of Nevada, Reno | Bachelor of Science in **Chemical Engineering** | Emphasis: Process & Energy

MACHINE LEARNING PROJECTS

Supervised Regression using SVR and Neural Networks for Early Prediction of End-of-Life in Lithium-ion Batteries
[GITHUB LINK] Term Project for CS732: Machine Learning
• Trained & evaluated models with Elastic Net Regression, Support Vector Regression, LSTM, CNN, & Multilayer Perceptrons using Jupyter, PyTorch, and Scikit-learn, reducing the RMSE & MPE of battery lifespan predictions

Multimodal Learning with Audio/Transcripts of Earnings Conference Calls for Predicting Volatility of Stock Prices
[GITHUB LINK] Term Project for CS831: Deep Learning
• Trained transformer models on a variety of embedding techniques for speech/audio & corresponding transcript text
- Multi-Head Self Attention - Sentiment Classification with OpenAI API - Pre-trained LLM Models & Tokenizers
- Prompt Engineering - Hugging Face Sentence Transformers - Emotion Classification in Audio

Deep Q-Learning & Experience Replay Variants for Reinforcement Learning Tasks
[GITHUB LINK] Term Project for CS730: Artificial Intelligence
• Developed agents using Deep Q-Networks, Double DQN, & Dueling DDQN in Gymnasium

NFL Database Application - with PostgreSQL and CLI
[GITHUB LINK] Term Project for CS761: Database Management Systems
- Data indexing & CTEs - Database Normalization & Functional Dependencies - Logistic regression

Personal Project – Predicting Winning Lineups in NFL DraftKings Tournaments
- Webscraping - Data Cleaning - Binary Classification

PROFESSIONAL EXPERIENCE

CURRENT **Kansas State University** | RESEARCH GROUP MEMBER | Knowledge Discovery in Databases Laboratory
• Developing

SUMMER 2022 **Wichita State University** | RESEARCH ASSISTANT - DATA & SOFTWARE | *PI: VINOD NAMBOODIRI, PHD*
• Developed indoor maps & indoor tagging in OpenStreetMap for wayfinding applications, NSF funded (SPINAL CORD INJURY)

JUNE 2015 ↑ DEC 2014 **McClelland Laboratories, Inc.** | **JR. METALLURGIST - PROJECT MANAGER**
• Added several new tests to the laboratory's capabilities involving permeability & comminution of heap leach ore (in the field of extractive metallurgy for the mining industry)
• Thorough research & design, with a strong independent work ethic, including technical writing and project management of small capital projects
• Researched laboratory automation technologies

DEC 2014 ↑ AUG 2011 **McClelland Laboratories, Inc.** | LABORATORY TECHNICIAN
• Performed a large variety of metallurgical laboratory testwork and experiments
• Operated pilot-scale solvent extraction unit (Vanadium and Copper) including many bench tests
• Engaged in HAZCOM and chemical hygiene program

CERTIFICATIONS, SKILLS, & PROFESSIONAL DEVELOPMENT

- **AWS Certified Machine Learning Specialist (AWS MLS) – August 9, 2024**
- AWS Certified Solutions Architect Associate (AWS SAA) – July 17, 2024
- AWS Certified Cloud Practitioner (AWS CLS) - July 11, 2024
- Google CSRMP 2021 (Computer Science Research Mentorship Program)
  - Mentor: Tasos Kementsietsidis, PhD - Staff Research Scientist at Google
- Barrick Goldstrike Mine – 2013 Senior Class Capstone Design Team UNR – Economic feasibility analysis of 500 ton/hr CIL circuit design and heat recovery system in boiler design for autoclave
- NCEES Chemical Engineering Intern Certification Nevada State Board of Professional Engineers

Languages & Libraries: Python (PyTorch, Pandas, NumPy, SciKit-Learn, Hugging Face), SQL, C++, Java, JavaScript, PHP
Skills: Reinforcement Learning, Computer Vision, NLP, Data Analysis & Visualization, Hyper-parameter Tuning