Reid Wyde

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SKILLS

Primary Technologies: Python, Generative AI, Agentic AI, PostgreSQL, GraphQL, PySpark, AWS EC2, AWS S3, AWS EKS, AWS ECR, AWS CloudWatch, Pandas, XGBoost, PyTorch, Tensorflow, Scikit-Learn, Matplotlib, NLTK, Librosa, NetworkX, Plotly, Docker, Kubernetes, Poetry, Git, NLP, Computer Vision
Additional Technologies: TypeScript, JavaScript, Cython, C++, ReactJS, D3JS, NodeJS, Redis, Apollo, Postgraphile, Flask, Dash, Prometheus, Grafana, PyStore, Harbor, ArgoCD, GitLab CI/CD, GitHub Actions
Security Clearance: Secret Level

WORK EXPERIENCE

Cognovi Labs – Data Scientist 9/2024 – Present

- Researched and implemented deepfake audio detection models using Librosa and XGBoost
- Generated deepfake audio dataset to enhance model robustness using ElevenLabs API
- Analyzed emotion propagation in large-scale social media networks using NLP and NetworkX
- Developed interactive network visualization app using React, D3, and Dash

Kyrtas – Lead Developer 2/2022 – 9/2024

- Trained high performance financial analysis ML models using Python and Cython
- Containerized and deployed ML models for real time use with Docker and Kubernetes
- Monitored ML model performance with K9s, Prometheus, and Grafana
- Integrated CI/CD pipeline using Harbor, ArgoCD, and Gitlab CI/CD
- Managed ML model data storage with PyStore
- Reviewed, collaborated on, and published code changes using Gitlab, NPM, PyPi, and Poetry
- Built cross-platform front end UI for securities trading application using ReactJS and TypeScript
- Implemented high speed, multi-account trading client using C++ and Rithmic API
- Integrated application with back end databases using GraphQL, PostgreSQL and Apollo
- Created cross container data pipelines using Redis

Applied Research Laboratories UT – Engineering Scientist Associate 7/2020 – 2/2022

- Used computer vision and reinforcement learning to characterize ocean acoustic environments
- Built parallel computing pipeline infrastructure to speed up data generation process 100x
- Collaborated with teammates on the software design of an underwater acoustic simulation toolbox
- Created and delivered a 14 week course on machine learning and deep learning

Infovision R&D – Machine Learning Engineer 5/2020 – 7/2020

- Built real time multi camera multi person tracking system using machine vision and 3D camera systems
- Designed systems, created test framework and operated as technical lead for machine learning team
- Integrated RESTful web services into application using asynchronous multiprocessing in Python
- Created horizontally scalable camera input network using Redis

Hyperia, Inc – Deep Learning Engineer 1/2020 – 2/2020

- Developed classification models for speech recognition using PyTorch, achieved 94% accuracy
- Implemented noise reduction and voice activity detection for speech signals using WebRTC
- Planned, estimated and executed development effort using agile methodology

Microsemi Corporation – Audio Systems Engineer Co-op 2/2018 – 12/2018

- Architected convolutional neural networks to reduce speech reverberation using Keras and Tensorflow
- Prototyped signal processing algorithms for deployment in embedded systems using MATLAB and C
- Automated validation test bench data generation using Bash and Tcl

Equal Opportunity in Engineering Program – Peer Tutor and Mentor 8/2016 – 12/2018

- Individually coached and instructed 4-6 students a semester
- Tutored in physics, differential equations, programming, and mathematics

College Works Painting – Sales Manager 9/2015 – 6/2016

- Sold over $55,000 in residential house painting contracts
- Demonstrated high proficiency in time management; Traveled to Dallas every weekend in the Spring 2016 school semester to meet with clients and market business while enrolled in UT Austin

RESEARCH

Center for Computational Oncology UT – Research Assistant 6/2019 – 5/2020

- Contributing author to "Optimizing combination therapy in a murine model of HER2+ breast cancer", *Computer Methods in Applied Mechanics and Engineering*, December 2022
- Developed and trained breast cancer growth models using Python
- Guided optimal chemotherapy and immunotherapy cancer treatment
- Integrated Markov Chain Monte Carlo statistical programming framework PyMC3
- Implemented gradient based calibration for system models in PyTorch, speeding convergence 10x
- Built treatment recommendation system using optimal control theory and GEKKO

Wireless Communications Lab UT – Research Assistant 5/2017 – 8/2017

- Prototyped FPGA array to implement joint 802.11ad Wi-Fi and radar
- Improved build times by 80% by setting up a remote server for FPGA bitfiles

PROJECTS

Neural Sound Separation – Full Stack Software Engineer, Team Lead 8/2019 – 5/2020

- Built a fully convolutional neural network architecture for musical source separation using PyTorch
- Developed web application front-end using ReactJS
- Scaled model training using AWS Elastic Cloud Computing, Docker and CUDA hardware acceleration
- Deployed application to cloud using Docker, Flask and Google App Engine

Machine Vision Alzheimer's Detection – Deep Learning Engineer 8/2018 – 12/2018

- Implemented a data driven model for automatic detection of Alzheimer's from MRIs using Keras
- Improved training speed by 2000% through GPU hardware acceleration using CUDA
- Adapted model for interpretability and clinical applicability using XGBoost

Quantum Computing Initiative – Head of Software Development 3/2017 – 12/2018

- Automated quantum computing environment setup using Bash and Batch
- Consulted with IBM Quantum Experience Designers and Applied Research Laboratories

EDUCATION

The University of Texas at Austin; B.Sc. Computer Engineering; GPA 3.85 8/2015 – 5/2020

Specialization: Software Development and Data Science

Coursework: Software Design and Implementation, Algorithms, Applied Statistics, Data Science, Real-Time Digital Signal Processing, Applied Linear Algebra, Probability, Numerical Methods