David Robinson

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EDUCATION

University of Central Florida

Bachelor of Science in Computer Science, Intelligent Robotic Systems Minor

Certifications: AWS Cloud Practitioner, AWS Solutions Architect

Awards: UCF Principal's Honor List, UCF Dean's Honor List x4, Florida Academic Scholar (Bright Futures)

Relevant Coursework: Computer Vision, Data Structures and Algorithms, Artificial Intelligence, Linear Algebra

TECHNICAL SKILLS

Languages: Python, C/C++, SQL, Java, JavaScript, R, LaTeX

Machine Learning: PyTorch, TensorFlow, Scikit-Learn, Transformers, Sentence-Transformers, ONNXRuntime, OpenCV, YOLO, MMDetection, TorchScript, LangChain

Tools and Platforms: AWS, Docker, Kubernetes, Flask, Git, MongoDB, MySQL, PostgreSQL, Pandas, NumPy, Matplotlib

EXPERIENCE

Machine Learning Intern

Contract (Confidential)

- Designed and trained a neural network using letter, phoneme, and metaphone sequences with Embedding-LSTM modules and an MLP, achieving 90.7% accuracy and 93.59% precision on string similarity classification.
- Built a dataset of 4000+ labeled string pairs and engineered feature extraction pipelines including tokenization. phoneme and metaphone generation, sentence embedding cosine similarity, and Levenshtein distance.
- Deployed an **ONNX**-optimized model into a Flask API for real-time inference, accelerating predictions by $4 \times$ through preprocess batching, fuzzy match pruning, JIT compilation, and C++-backed operations.

Undergraduate Researcher

UCF Center for Research in Computer Vision

- Built a custom dataset of 1,036 video samples of stroke patients performing Box and Block Tests, segmenting videos into 30-frame clips for temporal action classification.
- Fine-tuned and benchmarked neural networks (R3D, R2Plus1D, Video Swin Transformer, Video MViT, MotionBERT, PoseConv3D, MS-G3D) for movement analysis, achieving up to 90.18% accuracy across different seeds.

PROJECTS

SimplyASL | PyTorch, Swift, Flask, OpenCV, OpenAI, LangChain, NumPy

- Deployed Meta AI's Sapiens Pose Estimation model to generate 2D pose representations of ASL.
- Trained an LSTM-based model to generate intermediate frames between ASL signs for smoother transitions.
- Implemented few-shot prompting techniques to improve English-to-ASL Gloss translation using OpenAI's GPT-4 Seq2Seq model.

Accelify | PyTorch, MongoDB, Pandas, NumPy, Scikit-Learn, Flask, Python

- Built and trained a PyTorch neural network combining embedding layers, LSTM-based sequence modeling, and fully connected layers to recommend ServiceNow Technical Accelerators, achieving a 95.83% reduction in loss.
- Created a recommendation dataset using TF-IDF, co-occurrence matrices, and scoring mechanisms with 150+ entries of sample company and ServiceNow product information.

BookMate | PyTorch, Selenium, NextJS 13, Flask, Python, R

- Leveraged **R** to track loss and accuracy curves for hyperparameter tuning and performance optimization.
- Trained the **YOLOv8** model on filtered barcode datasets, achieving **98.3 mAP** for identifying ISBNs.
- Built a PyTorch regression model to determine optimal selling prices for books, reaching **3.9 MSE Loss**.

CAMPUS INVOLVEMENT

UCF Programming Team

Member

- Achieved 4th place in the 2023 ICPC North America South Regional Contest out of 100+ Teams.
- Created and judged problem sets for the UCF High School Programming Contest for 80+ teams.



March 2025 – Present

Remote

Orlando, FL

Orlando. FL

Sep 2023 - Sep 2024

August 2024 – Present