

David Robinson

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EDUCATION

University of Central Florida

May 2026

Bachelor of Science in Computer Science, Intelligent Robotic Systems Minor

3.93 GPA

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

Undergraduate Researcher

Orlando, FL

UCF Center for Research in Computer Vision

August 2024 – Present

- Created a dataset of **1,036** video clips of stroke patients performing Box and Block Tests for movement analysis using pose estimation and 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.

Machine Learning Engineer

Remote

Contract

March 2025 – May 2025

- Designed and trained a neural network using Embedding-LSTM modules and an MLP, achieving **90.7%** accuracy and **93.59%** precision on a string similarity classification task.
- Built a dataset of **4,000+** labeled string pairs and engineered feature extraction methods 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×** through batch preprocessing, fuzzy match pruning, JIT compilation, and C++-backed operations.

PROJECTS

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

- Generated 2D pose representations of ASL using **Meta AI's Sapiens** pose estimation model.
- Constructed an LSTM-based model to interpolate pose keypoints and generate temporally-smooth ASL transitions.

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

- Developed 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.
- Built a recommendation dataset using TF-IDF and co-occurrence scores on product usage data with **150+** entries.

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.
- Created a PyTorch regression model to determine optimal selling prices for books, reaching **3.9 MSE Loss**.

PUBLICATIONS

StrokeVision-Bench: A Multimodal Video and 2D Pose Benchmark for Tracking Stroke Recovery

David Robinson, Animesh Gupta, Rizwan Qureshi, Qiushi Fu, Mubarak Shah

Accepted to IEEE MLSP 2025

CAMPUS INVOLVEMENT

UCF Programming Team

Orlando, FL

Member

Sep 2023 – Sep 2024

- 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**.