David Robinson

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Education

University of Central Florida December 2026
Bachelor of Science in Computer Science, Data Science Minor *3.91 GPA*
Certifications: AWS Cloud Practitioner
Awards: UCF Dean's Honor List x2, Florida Academic Scholar
Relevant Coursework: Computer Vision, Data Structures and Algorithms, Software Engineering, Linear Algebra

Experience

Undergraduate Researcher Orlando, FL
UCF Center for Research in Computer Vision *Aug 2024 – Present*
- Led research toward publication in **ICCV 2025**, focusing on hand-object interaction for grasp detection
- Engineered an algorithm for stroke patient movement analysis using **Meta AI's Sapiens Pose and Depth** models to predict and lift 2D keypoints to 3D for **3D pose estimation**.

Software Engineering Intern Orlando, FL
Dynamic Animation Systems *Aug 2023 – July 2024*
- Fine-tuned the **Mistral-7B** Large Language Model (LLM) with **Hugging Face's Transformers and PEFT** libraries to understand and generate dynamic simulation scenario files.
- Designed an ontology for simulation hosting in on-premises and cloud environments, integrating containerization technologies like **Docker** and **Kubernetes**, as well as **AWS** and **GCP** to enhance deployment flexibility.

Projects

SimplyASL | *PyTorch, Swift, Flask, OpenCV, OpenAI, Langchain, NumPy*
- Deployed Meta AI's Sapiens Pose Estimation model to generate **2D pose** representations of ASL.
- Engineered **few-shot prompting** for **OpenAI's GPT-4 Seq2Seq** model to perform English-to-ASL Gloss translation.

Accelify | *PyTorch, MongoDB, Pandas, NumPy, Scikit-Learn, Flask, Python*
- Built and trained an **(LSTM)-based architecture** to recommend ServiceNow Technical Accelerators, achieving a **95.83% reduction in loss** for more accurate recommendations.
- 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** for hyperparameter tuning and performance optimization of machine learning models.
- 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**.

Open Source Contributions

DclareForMPS | *Java, JUnit, Jetbrains MPS*
- Designed and implemented a graph-based ordering system to store imperative transactions, using a depth-first search and parallel computing to optimize execution efficiency.
- Improved rule handling by enabling inner expressions and rules to respect all forms of light and full quotations.

Technical Skills

Languages: Python, C/C++, R, SQL, Java, LaTeX, JavaScript
Tools & Platforms: AWS, Git, MongoDB, MySQL, PostgreSQL, MS Office Suite, ONNX, Docker, Kubernetes
Libraries & Frameworks: PyTorch, TensorFlow, Pandas, NumPy, Matplotlib, Hugging Face, Langchain, Scikit-Learn, JUnit

Campus Involvement

UCF Programming Team Orlando, FL
Member *Sep 2023 – Sep 2024*
- Achieved **4th place** in the 2023 **ICPC Big South Regional** Division 2 Contest out of **100+ Universities**.
- Created and **judged problem sets** for the UCF High School Programming Contest for **80+ teams**.