Brandon Silva

Links: https://github.com/brandons209 https://bsilva.info
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Summary

Experienced AI and software engineer with a wide range of skills; quick to learn, great problem solver, and experienced in multiple programming languages.

Experience

Florida Solar Energy Center (FSEC) **October 2020 - Present**
1679 Clearlake Rd, Cocoa, FL 32922

Research Assistant, Systems Administrator, Database Engineer
- Developed AI models for predicting faults in Photovoltaic systems
- Built software to automate data collection, analysis, and reporting
- Designed and managed databases for storage of research data
    - Relational (MySQL) and Time Series databases (OSI-PI)
- Maintained Windows and Linux servers including web servers

University of Florida **August 2021 - July 2024**
1889 Museum Rd, Gainesville, FL 32606

Graduate Research Assistant
- Performed research using AI Transformers for patient outcome prediction in ICUs
- Helped peers in using lab Linux servers for research
- Collaborated with other researchers on various projects utilizing computer vision and deep neural networks
- Created grant and fellowship submissions for funding

Orange County Academy **July 2018 – July 2021**
18415 11th Ave, Orlando, FL 32833

IT, Network and Systems Administrator (Volunteering)
- Developed and implemented school-wide networking infrastructure
- Managed Active Directory, Windows and Linux servers, school data, and G-Suite services
- Provided technical support to staff
- Setup workstations, printers, and other peripheral devices

Center for Research in Computer Vision (CRCV) at UCF **September 2018 - December 2019**
4328 Scorpius St. Suite 245, Orlando, FL 32816

Undergraduate Research Assistant
- One of 10 participants selected for the National Science Foundation backed Research for Undergraduates program
- Conducted computer vision research alongside PhD students
    - Tracking multiple fast flying UAVs from another UAV for targeting
- Instructed peers on Linux command line tools, PyTorch, Python, and AI fundamentals
- Hosted workshops on interfacing with High Performance Computers

Technical Skills

- Proficient in Java, C, C++
- Highly skilled in Python
- Git and GitHub
- Package testing and deployment
- Linux and Windows OS
- Linux Command Line
- Network Administration
- Database Management (MySQL)
- Microsoft Office
- Machine Learning (ML)
- Deep Learning (DL) using PyTorch and Keras
- Computer Vision
- Transformers
- Data Science Tools (pandas, numpy, matplotlib, scipy etc.)
- Analyzing large datasets

Soft Skills

- Leadership
- Educating
- Collaboration
- Communication
- Problem Solving
- Project Planning
- Organization and Time Management
- Conflict Resolution

Education

Bachelors of Science in Computer Engineering
Minors:
- Mathematics
- Intelligent Robotics Systems

3.97 GPA, Summa Cum Laude
Lead Scholar Designation

University of Central Florida (UCF)
Orlando, FL 32816

August 2021

Masters of Science in Computer Science
3.66 GPA

University of Florida (UF)
Gainesville, FL 32601

December 2023

Projects and Publications

- **PyPVRPM -** Photovoltaic Reliability and Performance Model in Python
  - Simulates PV systems over their lifetime to estimate costs, profits, and viability of large solar panel power plants using NREL's SAM software
- **Multi-dimensional patient acuity estimation with longitudinal EHR**
  - Processes large amounts of electronic health records for patients to predict mortality in ICU
- **Dynamic Delirium Prediction in the Intensive Care Unit using Machine Learning on Electronic Health Records**
  - Predict onset of Delirium for patients every 12 hours using AI
- **Transformers and large language models in healthcare: A review**
- **APRICOT-Mamba: Acuity Prediction in Intensive Care Unit (ICU)**
  - Utilizes MAMBA and Transformer models for predicting acuity in 4 hour windows
- **MAC -** Modular Autonomous Cart that Assists with Intra-home Object Transportation
  - Senior Design Project for achieving Bachelors in Computer Engineering
- **The Storyteller -** Robot designed to tell AI generated short stories to children
  - Utilities an Arduino and LED arrays to create an aesthetically pleasing face alongside a camera to track peoples faces when telling the story
- **AI Lecturer -** Designed and hosted numerous workshops to teach students introduction to AI and ML

- **Homelab -** Runs a small home server including NAS with ZFS RAID, web servers, home automation and networking
- **Robotics -** Participated in FIRST Robotics in highschool, robotics senior design project in college, and achieved a minor in Intelligent Robotics Systems