Daniel Parra

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EDUCATION

University of Florida | Gainesville, FL **August 2022 – May 2026**
Computer Science BS | GPA: 4.00 | Undergraduate Research Scholar, UF Honors Student
Relevant Coursework: Intro to Software Engineering, Data Structures (C++), Machine Learning Engineering (Python), Math for Machine Learning (Julia), Programming Language Concepts (Java)

WORK EXPERIENCE

Dr. Schwartz Machine Intelligence Lab | **Software Lead (January 2024)** **January 2023 – Present**
- Collaborated with team leads to foster cohesive development of autonomous vehicles through regular weekly standup meetings.
- Optimized way-finding software accuracy by 50%, employing a path partitioning strategy (0.85-0.15 ratio) that enables our virtual autonomous surface vehicle (ASV) to correct its orientation to compensate for extraneous environmental factors.
- Leveraged the Robot Operating System (ROS) Python library to establish an interconnected Internet of Things (IoT) system, implementing underwater image enhancement AI, transforming raw video feeds into videos with more distinguishable features.

Dr. Tang Mechanobiology Lab | **Research Assistant & Software Engineer** **August 2022 – Present**
- Designed software for analyzing lung cancer cell structures, highlighting protein concentration disparities post-cancer treatment.
- Developed cell structure analysis software in MATLAB, producing in-depth reports on cell strand thickness and length using C++.
- Trained new team members in gel substrate production, enabling efficient lung cancer cell cultivation and clear cell imaging.
- Developed and delivered research summaries to communicate findings at scholarly research conferences.

Beck College Prep | **Web & Marketing Automation Developer** **December 2021 – August 2022**
- Integrated CRM database with the company website, using Monday API for Node JS to synchronize data and streamline workflow.
- Created in-house tools to produce templated student score reports in PDF format, facilitating delivery to clients via the website.
- Automated Twilio messaging for instant client communication through the CRM and company website.

PROJECTS

Cell Communication Detection AI | **Full Stack Developer** **January 2024 - Present**
- Utilize programmatic methods initially, involving calculations to identify changes in cell communication patterns.
- Spearheaded the assembly of a pristine dataset, meticulously dividing it into 400 samples with flashes and 400 without.
- Architected a 3D Convolutional Neural Network (CNN) as a pivotal component within our AI framework, trained to achieve 85-90% accuracy on unseen data.

SHPE: SHPE UF iOS App | **Swift Lead (January 2024)** **September 2023 - Present**
- Orchestrated the seamless integration of the SHPE website's backend with the Xcode Swift ensuring cohesive data access.
- Encouraged best practices like organizing Swift workspaces under the (MVVM) structure to improve code maintainability.
- Provided personalized one-on-one sessions for in-depth understanding and progress monitoring, enhancing overall team success.
- Implemented a robust Core Data login system ensuring persistent user sessions, enhancing user experience with the app.
- Acted as a go-to resource for team members, offering expertise in troubleshooting and resolving software development challenges within the Xcode environment, GitHub, and Swift.

ZenChange Marketing - Zury: Executive Assistant | **Contracted Software Developer** **January 2024**
- Established feedback loop for Zury, ensuring it met client expectations as a reliable and feature-rich solution available 24/7.
- Integrated Google Drive API for Zury, keeping the team seamlessly updated with dynamic shared folder checks.
- Integrated Zury with the LangChain library, enabling the generation of intelligent and contextually relevant responses to employee inquiries, empowering the team with swift and informed answers.

Spherical Cell Detection AI | **Full Stack Developer** **September 2023**
- Collaborated with a graduate student to assess project scopes and enhance a struggling software for cell detection.
- Streamlined image analysis from laborious 1-hour manual process per image to 5-10 seconds for a directory of 3 images.
- Trained YOLOv5 model with a hand-crafted dataset encompassing 50 images partitioned into 6 sections with diverse lighting and focus conditions with numerous cells, ensuring robust model performance improving cell detection from 20% to 90%..
- Authored presentations and instructional guides for laboratory peers, facilitating the adoption of the tool.

SKILLS

Languages: C++, Python, Java
Computer Vision: YOLOv5
OS: Ubuntu, Windows, Mac
Web Dev: HTML, CSS, JS, Node.js
iOS Dev: Swift, SwiftUI, MapKit
CRM: Monday.com, Twilio
Deep Learning Frameworks: Tensorflow, Pytorch
Database and Cloud Service: MongoDB, Firebase
Spoken Languages: Spanish, Portuguese (Elementary)