Andres G. Gomez

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EDUCATION

Master of Science in Electrical and Computer Engineering, Graduation: May 2024
University of Florida (UF), Gainesville, FL   GPA: 3.76

Bachelor of Science in Electrical Engineering and Physics Graduated: May 2020
Florida International University (FIU), Miami, FL

EXPERIENCE

Graduate Student Researcher | Gainesville, FL   Aug 2023 – May 2024
UF Department of Electrical and Computer Engineering, Dr. Catia Silva
- Applied computer vision, image processing, and time-series algorithms to build a highly adaptable and modular machine learning system for educational applications
- Collaborated with the research team to understand data requirements, constructed an efficient data pipeline to ingest, process, and analyze structured and unstructured data
- Presented latest research trends to the team and mentored undergraduate researchers on enhancing machine learning functionality in original products
- Authored abstracts/papers to conferences, and maintained comprehensive documentation of model architecture and implementation details

Research Assistant | Gainesville, FL   Feb 2023 – March 2024
Artificial Intelligence in Medical Imaging Lab, Dr. Wei Shao
- Investigated state of the art computer vision models, identified areas for improvement, fine-tuned them for specific medical applications using NVIDIA GPU hardware
- Led extensive experiments to optimize and benchmark novel computer vision models on diverse medical datasets, and employed enhancement techniques to boost model performance
- Rapidly acquired proficiency in novel vision models, collaborated with research teams to swiftly deliver tailored, data-driven solutions to medical professionals
- Engineered a deformable down-sampling module to enhance the adaptability and performance of existing computer vision architectures
- Developed comprehensive technical documentation, including tutorials and articles, of data workflows, model architectures, and core operators

Medical Physics Assistant | Miami, FL   June 2020 – April 2022
Miami Cancer Institute, Baptist Health South Florida
- Developed and deployed applications to automate clinical operations, streamlining data extraction/loading processes, robust data quality checks, and data analysis
- Collaborated on cutting-edge medical physics research, designed experiments, collected and analyzed medical data and conducted exploratory data analysis
- Maintained detailed documentation for executables and workflows, facilitating seamless understanding and efficient utilization of automated processes

Academic Coach – Math and Physics | Miami, FL   March 2017 – June 2020
Center for Academic Success, FIU
- Developed creative examples and clearly communicated complex topics to in both classroom settings (60+ students) and individualize tutoring
- Identified common misconceptions and catered examples to improve student's understanding
- Attended academic seminars and stayed up to date on latest pedagogy research

SKILLS

PROGRAMMING/SCRIPTING LANGUAGES | Python · MATLAB · Bash · C++ · SQL

PYTHON ENVIRONMENT | Jupyter Notebook · Pytorch · TensorFlow · MONAI · PIL · OpenCV · NumPy · Pandas · Scikit-learn · SciPy · Matplotlib

MISCELLANEOUS | Machine learning · Deep learning · Supervised and Unsupervised learning · Natural Language Processing · Object-oriented programming · Linux · GitHub · Exploratory Data Analysis and Visualization · NVIDIA GPU

SOFT SKILLS | Team player · Effective communication · Strong problem-solving · Results-oriented · Curious mindset · Creative · Excellent time-management

CERTIFICATES

· Machine Learning | UF ECE – May 2024
· Data Analysis with Python | IBM – Aug 2021
· Data Visualization with Python | IBM – July 2021
· Python for Data Science, AI & Development | IBM – June 2021

COURSEWORK

· Machine Learning (ML) · Pattern Recognition
· Digital Signal Processing · ML for time-series
· Data Analysis · Computer Vision · Image Processing · Linear Algebra · Probability and Statistics · Multivariable Calculus

PUBLICATIONS

1. Peer reviewed publication: **A Gomez**, C Silva. Adaptive Affect-Aware Multimodal Learning Assessment System for Optimal Educational Interventions. 2024 ASEE Annual Conference & Exposition, Feb 2024
2. Peer reviewed poster - accepted: **A Gomez**, M Leyva, L Coutinho. Preliminary Investigation of the Dosimetric Impact of Common Dental Restorative Materials on Proton Beams. AAPM Virtual 63rd Annual Meeting, July 2021
3. Peer reviewed poster - accepted: **A Gomez**. Utility of 3D Printer In Brachytherapy to Fabricate End-To-End Testing Phantoms For Multiple Purposes. AAPM Spring Clinical Meeting 2022