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: 3.75

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

RESEARCH EXPERIENCE

Graduate Student Researcher | Gainesville, FL Aug 2023 – Present
UF Department of Electrical and Computer Engineering, Dr. Catia Silva

- Applied computer vision, and deep learning time-series algorithms to build innovative educational assessment tools
- Developed highly adaptable, modular, and scalable ML platforms, demonstrating mastery in object-oriented programming
- Designed and built a data collection protocol, constructed an efficient data pipeline, and thoroughly analyzed the novel dataset
- Mentored undergraduate researchers in how to effectively enhance machine learning functionality in original products
- Authored and submitted abstracts and papers for conference presentations, exemplifying effective research communication

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 large experiments to optimize and benchmark computer vision models using diverse medical datasets and enhancement techniques
- Researched innovative components, like deformable down sampling, for enhanced adaptability of existing architectures
- Collaborated with research teams to identify and rapidly deliver deep learning solutions to medical professionals
- Developed tutorials and authored articles to share knowledge within the field, contributing to the dissemination of best practices

PROFESSIONAL EXPERIENCE

Medical Physics Assistant | Miami, FL June 2020 – April 2022
Miami Cancer Institute, Baptist Health South Florida

- Developed scripts and applications to automate and optimize clinical operations and streamline data analysis processes
- Collaborated on cutting-edge clinical physics research, conducted literature searches, collected and analyzed medical data
- Demonstrated proficiency in prototyping and device development, and expertise in quality assurance and precise data measurement

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/approach
- 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
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
4. Peer reviewed published: D Doty, M Choung, **A Gomez**, Stereotactic MR-guided online adaptive radiotherapy reirradiation (SMART reRT) for locally recurrent pancreatic adenocarcinoma: A case report. Med Dosim. 2021
5. Peer reviewed poster - accepted: S George, J Contreras, **A Gomez**. Syed Template for Interstitial HDR_ A 3D Printed Alternative. American Association of Physicists in Medicine. 2021