MICHAEL F. PÉREZ

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EDUCATION

Ph.D. in Computer Science, GPA 3.75 — August 2020 – Present
University of Florida — Gainesville, FL

Master's in Computer Science, GPA 3.75 — August 2020 – May 2023
University of Florida — Gainesville, FL

Bachelor's in Computer Science, GPA 3.80 — May 2020
Florida Polytechnic University — Lakeland, FL

Computer Science, 9 hours, GPA 4.0 — May – August 2018
Broward College — Davie, FL

Computer Science, 48 hours, Computer Science GPA 3.92 — September 2016 – January 2018
Columbia University, The School of Engineering and Applied Science — New York, NY

TECHNICAL SKILLS

Applications: MATLAB, Word, PowerPoint, Excel, Photoshop, Premiere, Audition, Blender, Android Studio, Microsoft Visual Studio, CMake, and LaTeX

Programming Languages: Java, C, Python, C#, C++, SQL, MATLAB, HTML, CSS, Javascript, Mathematica, CLIPS, VHDL, Mosel (Fico Xpress), Caffe, Bison, Yacc, Julia, and F#

Libraries: OpenCV, OpenAL, PyTorch, Tensorflow, Keras, Numpy, Scipi, Skikit-learn, Pandas, OpenGL, WebGL, Flutter, and Akka.NET

Operating Systems: Mac OS, Windows, Ubuntu, and Manjaro

Spoken Languages: Bilingual (Spanish and English)

JOURNAL PUBLICATIONS

O. Topsakal, M. İ. Akbaş, D. Demirel, R. Nunez, B. S. Smith, **M. F. Perez**, and M. M. Celikoyar, "Digitizing rhinoplasty: A web application with three-dimensional preoperative evaluation to assist rhinoplasty surgeons with Surgical Planning," *International Journal of Computer Assisted Radiology and Surgery*, vol. 15, no. 11, pp. 1941–1950, 2020. doi: 10.1007/s11548-020-02251-7.

O. Topsakal, M. İ. Akbaş, B. S. Smith, **M. F. Perez**, E. C. Guden, and M. M. Celikoyar, "Evaluating the agreement and reliability of a web-based facial analysis tool for rhinoplasty," *International Journal of Computer Assisted Radiology and Surgery*, vol. 16, no. 8, pp. 1381–1391, 2021. doi: 10.1007/s11548-021-02423-z.

M. M. Celikoyar, **M. F. Pérez**, M. I. Akbaş, and O. Topsakal, "Facial surface anthropometric features and measurements with an emphasis on rhinoplasty," *Aesthetic Surgery Journal*, vol. 42, no. 2, pp. 133–148, 2021. doi: 10.1093/asj/sjab190.

CONFERENCE PUBLICATIONS

O. Topsakal, M. İ. Akbaş, D. Demirel, R. Nunez, B. S. Smith, **M. F. Perez**, and M. M. Celikoyar, "Digitizing Rhinoplasty: A web application for three-dimensional preoperative

planning," presented at the Computer Assisted Radiology and Surgery (CARS) Congress, Munich, Germany, June 23-27, 2020.

O. Topsakal, M. İ. Akbaş, B. S. Smith, **M. F. Perez**, E. C. Guden, and M. M. Celikoyar, "Evaluating Intra and Inter Reliability of a Web-Based Facial Analysis Tool for Rhinoplasty," in Computer Assisted Radiology and Surgery (CARS) Conference, Munich, Germany, June 21-25, 2021.

PUBLICATIONS IN SUBMISSION

Perez, Michael, and Corey Toler-Franklin. "CNN-Based Action Recognition and Pose Estimation for Classifying Animal Behavior from Videos: A Survey." *arXiv preprint arXiv:2301.06187* (2023).

HONORS AND AWARDS

Graduate School Preeminence Award, University of Florida   September 2020 – Present
L3Harris Corporation Graduate Fellowship   April 2022

RESEARCH EXPERIENCE

Graphics, Imaging, and Light Measurement Lab   August 2020 - Present
CISE Department, University of Florida   Gainesville, FL
- Working on a research project that leverages adversarial approaches to model 3D motion and behavior from videos for applications in biomedical research
- Working under Dr. Corey Toler-Franklin's direction; Dr. Darragh Devine, from UF's psychology department, and Dr. Jörg Peters and Dr. Alper Üngör, from UF's CISE department, will also supervise my research

Rhinoplasty Research Group   May 2019 – May 2020
Computer Science Department, Florida Polytechnic University   Lakeland, FL
- Conducted a survey of over fifty research papers, documenting the facial landmarks and measurements relevant to the field of rhinoplasty, under the guidance of Dr. Mazhar Celikoyar, Dr. Oguzhan Topsakal, and Dr. Mustafa Akbas
- Collaborated with other students to develop a web interface for importing, exporting, and displaying feature point coordinates and measurements values onto 3D models of the human face

PROJECT EXPERIENCE

"Hermes Tracker App"   February - May 2019
Mobile Device Applications Class, Florida Polytechnic University   Lakeland, FL
- Collaborated with two other students to create a mobile app using Android Studio and Flutter; the app is cross-platform, working on both Android and Apple phones
- Designed the app to allow any organization that receives a large amount of mail to keep track of many daily operations including package tracking and delivery, letter tracking, and report generation using Google Cloud Firestore

"Escape the Maze – Mario Edition"   April - May 2019
Computer Graphics Class, Florida Polytechnic University   Lakeland, FL
- Developed an interactive graphical web application using WebGL, Javascript, and HTML

- Created a game in which the user has to escape a maze; there is a title menu, three levels, player options, enemies (animation simulated by using multiple sprite textures), projectiles, lighting, and sound effects

"Defecation Detecting Dog Trainer" November 2019 - December 2019
Computer Vision Class, Florida Polytechnic University Lakeland, FL
- Compared several deep neural networks using Caffe and OpenCV on a Raspberry Pi connected to a camera module and speaker
- The Pi is able to detect when a dog is present in the camera frame using pre-trained models; limitations in computer hardware and training data prevented me from training my own deep neural networks

"Car Sensor Cleaner" October 2019 - May 2020
Senior Design Class, Florida Polytechnic University Lakeland, FL
- Collaborated with other computer science and engineering students to create an autonomous vehicle sensor cleaner that cleans lovebugs off of vehicles using pressurized and heated water
- Applied the systems development life cycle and created all corresponding documentation but did not create the device because of the COVID epidemic

"Supervised Learning Approach to Pneumonia Characterization in Chest X-rays" |
September - December 2019
Machine Learning Class, Florida Polytechnic University Lakeland, FL
- Collaborated with my group to compare the use of several classification models in the detection of pneumonia in chest x-rays
- Implemented the convolutional neural network using Keras

"Diet Tracking App" January 2019 – May 2019
Software Engineering Class, Florida Polytechnic University Lakeland, FL
- Collaborated with my team to design a mostly nonfunctional app that was meant to analyze pictures of nutritional information of food and record daily nutritional intake
- Applied the software development life cycle to this project and created all the appropriate documentation, including the Software Design Specification and Software Requirements Specification documents

WORK EXPERIENCE

Teaching Assistant Summer 2023
Data Structures and Algorithms, University of Florida Gainesville, FL
- Instructor: Amanpreet Kapoor
- Host weekly office hours and discussions and respond to student questions
- Grade projects and homework

Teaching Assistant Spring 2023
Computational Structures for Computer Graphics, University of Florida Gainesville, FL
- Instructor: Dr. Jörg Peters
- Host weekly office hours and respond to student questions
- Grade OpenGL projects and portions of exams

Teaching Assistant Fall, Spring 2023
Operating Systems, University of Florida Gainesville, FL
- Instructor: Dr. Alexandre Gomes de Siqueira
- Host weekly office hours and discussions and respond to student questions

- Create and maintain automation scripts to grade hundreds of student projects in a batch

Teaching Assistant   Summer 2022
Programming Fundamentals II, University of Florida   Gainesville, FL
- Instructor: Dr. Alexandre Gomes de Siqueira
- Host weekly office hours and discussions and respond to student questions
- Grade programming projects

Research Assistant   Fall 2020 – Present
Graphics, Imaging, and Light Measurement Lab, University of Florida   Gainesville, FL
- Principal Investigator: Dr. Corey Toler-Franklin
- Perform research to advance various projects in the lab

Teaching Assistant   Summer 2021
Performant Programming in Python, University of Florida   Gainesville, FL
- Instructor: Jennifer "Ferby" Cremer
- Host weekly office hours and respond to student questions via email
- Perform all grading

Lead Teaching Assistant   Spring 2021
Operating Systems, University of Florida   Gainesville, FL
- Instructor: Dr. Sumi Helal
- Host weekly office hours and discussions, and respond to student questions
- Plan and delegate all grading among team of nine teaching assistants and peer mentors

Teaching Assistant   Fall 2020
Deep Learning for Computer Graphics, University of Florida   Gainesville, FL
- Instructor: Dr. Corey Toler-Franklin
- Host weekly office hours and respond to student questions

Office Manager, Administrative Assistant   January 2018 – May 2023
Psychiatric Consultants, Inc.   Plantation, FL
- Manage all aspects of Dr. Sayonara Baez's psychiatric practice, including scheduling appointments, processing patient inquiries, and accounting, remotely
- Expedite business workflows and streamline inefficiencies

Research Assistant   August 2019 – May 2020
Rhinoplasty Research Group, Florida Polytechnic University   Lakeland, FL
- Performed research tasks under Dr. Oguzhan Topsakal

Student Educational Assistant   August 2019 – May 2020
Databases 1, Florida Polytechnic University   Lakeland, FL
- Graded assignments and quizzes for Dr. Karim Elish's Database 1 class

Research Intern   June – August 2019
Rhinoplasty Research Group, Florida Polytechnic University   Lakeland, FL
- Performed research tasks under Dr. Oguzhan Topsakal

Student Educational Assistant   July – August 2019
Software Engineering, Florida Polytechnic University   Lakeland, FL
- Graded assignments and quizzes for Dr. Karim Elish's Software Engineering class

Tutor   February – August 2018
Huntington Learning Center   Pembroke Pines, FL
- Tutored high school students in standard and advanced subjects such as calculus
- Tutored middle school students in basic algebra and geometry

Tutor   February – August 2018
Perez Tutoring and Test Prep   Plantation, FL
  • Tutored high school students primarily in STEM subjects in a private tutoring business
Lifeguard   July – August 2017
Camp Young Judea Sprout Lake   New York, NY

Lifeguard   September 2016 – January 2018
Dodge Fitness Center, Columbia University   New York, NY

REFERENCES

Dr. Corey Toler-Franklin, Assistant Professor
Computer and Information Science and Engineering Department
University of Florida, Gainesville FL
ctoler@cise.ufl.edu

Dr. Abdelsalam (Sumi) Helal, Professor; Fellow, IEEE, AAAS, IET; Member of Academia Europaea
Computer and Information Science and Engineering Department
University of Florida, Gainesville FL
helal@cise.ufl.edu

Dr. Oguzhan Topsakal, Assistant Professor
Computer Science Department
Florida Polytechnic University, Lakeland FL
otopsakal@floridapoly.edu