Louis A. Gomez

lgomez@stevens.edu |+1316 226 2077|louisgomez.me

Education

Stevens Institute of Technology, Hoboken, NJ Fall 2019 – present
Masters in Computer Science Fall 2019 – Fall 2021
Ph.D. in Computer Science – Machine Learning and Healthcare Fall 2019 - present

Wichita State University (WSU), Wichita, KS Fall 2014 - Fall 2018
Bachelor of Science in Electrical Engineering Major GPA: 3.94
Minor in Computer Science, Mathematics Cumulative GPA: 3.94
Emory Lindquist Honors Scholar, Honors College

Research Interest: machine learning, healthcare, causal inference, time series

Research Experience

Research Assistant – Dr. Samantha Kleinberg Fall 2019 - present
Health and AI Lab, Stevens Institute of Technology

Consciousness Classification Using Physiological Signals in Neuro-ICU
Leveraged machine learning methods to classify states of consciousness in populations with subarachnoid and intracerebral hemorrhage. Achieved performance comparable to methods that leverage functional magnetic resonance imaging (fMRI) and functional electroencephalogram (fEEG) using only continuously recorded physiological signals.

Meal Detection for Type 2 Diabetes
Adapted a simulation-based explanation method to enable a more accurate meal detection in populations with type 2 or pre-diabetes using only continuous glucose monitoring data compared to wrist-worn sensors.

Research Intern – Dr. Cynthia Breazeal Jun. 2018 – Aug. 2018
Personal Robots, MIT Media Lab

Detecting Engagement in Child-robot Learning Interactions
Analyzed electro-dermal activity using trend analysis and statistical tests to quantify differences in interaction states between personalized and non-personalized child-robot learning interactions. Presented research findings at the MIT Summer Research Symposium.

Publications

L. Gomez, Q. Shen, K. Doyle, A. Vrosgou, A. Velazquez, M. Megjhani, S. Ghosal, D. Roh, S. Agarwal, S. Park, J. Claassen, S. Kleinberg, "Classification of Level of Consciousness in a Neurological ICU Using Physiological Data." Neurocritical Care 2022.

C. Popp, C. Wang, **L. Gomez,** S. Kleinberg, A. Hoover, M. Curran, B. Laferrere, D.S-Jules, "Objective Determination of Eating Occasion Timing (OREO): A Descriptive Study in Adults with Obesity." The Obesity Society 2021. (Poster Abstract)

H. Park, I. Grover, S. Spaulding, **L. Gomez,** C. Breazeal, "A Model-free Affective Reinforcement Learning Approach to Active Personalization of a Social Robot Companion for Early Literacy Education." Association for the Advancement of Artificial Intelligence (AAAI) 2019.

L. Gomez, J. Desai, "Artificial Neural Network as a Classifier to Detect Hand Movement from EEG Signals," IEEE Region Five Annual Conference, Austin, TX, April 6-7, 2018 **(Winner, Student Paper Competition)**

A. Reust, J. Desai, **L. Gomez**, "Extracting Motor Imagery Features to Control Two Robotic Hands." IEEE International Symposium on Signal Processing and Information Technology 2018.

Work Experience

Hardware Performance Intern Jun. 2019 – Aug. 2019
IBM, Poughkeepsie
Developed custom python script to automate data collection of device runs to automatically flag errors and automate result checking.

Resident Assistant Aug. 2017 – May 2018
Housing and Residence Life, Wichita State University

- Cultivated community among 55 students through social and educational activities
- Managed administrative tasks including health-safety checks and incident reports

Peer Academic Leader Aug. 2015 – May 2017
Housing and Residence Life, Wichita State University

- Develop, planned, and executed engineering-related programs with a budget of a $1000
- Served as liaison between students and the College of Engineering
- Encouraged STEM outreach through service projects

Junior Backend Developer Sept. 2016 – Jan. 2017
Ennovar, Wichita State University

- Developed Application Program Interfaces (API) using the Ruby on Rails framework
- Review code to eliminate bugs; thereby increasing code efficiency

Societies, Activities, and Community Service

National Society of Black Engineers
Roles: Vice President (2017 – 2018), Academic Excellence Chair (2016 – 2017).
Activity: Organized industry tours and study halls for student engagement. Leveraged Pre-collegiate Initiative (PCI) program for middle school STEM mentoring

IEEE Eta Kappa Nu (HKN)
Roles: President (201 –2018), Director of Awards Ceremony (2016-2017), Event Coordinator (2015-2016).
Activity: Organized faculty workshops and brown bag lunches to encourage faculty-student interaction. Executed and planned Awards Ceremony for the Electrical Engineering and Computer Science Department

IEEE EPICS Go Baby Go, Team Lead Aug. 2017 – Nov. 2017
Activity**:** Lead a team of high school students to modify a car for a child with cerebral palsy. Identified requirements for altering ride-on cars involving a relay switch, SPST switch, and BIG Mack button