

Carlos A. Taveras

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Education

Rice University

Ph.D. in Electrical and Computer Engineering (GPA -./4.0)

Houston, TX

Starting Fall 2022

Carnegie Mellon University (CMU)

M.S. in Electrical and Computer Engineering (GPA 3.9/4.0)

Pittsburgh, PA

Fall 2022 – Spring 2022

Carnegie Mellon University (CMU)

B.S. in Electrical and Computer Engineering (GPA 3.4/4.0)

Pittsburgh, PA

Fall 2017 – Spring 2021

Research Experience

Image Science Laboratory (CMU)

Research Assistant

Pittsburgh, PA

Spring 2021 – Spring 2022

- Advised by Prof. Aswin C. Sankaranarayanan
- Surveyed classical and state-of-the-art methods in uncalibrated photometric stereo

Robust Speech Recognition Group

Research Assistant

Pittsburgh, PA

Spring 2020 – Winter 2020

- Advised by Prof. Richard M. Stern
- Investigated prosodic features to include in a knowledge-based system that can detect live human speech in audio
- Devised cepstral method for detecting overlapped speech in audio

Work Experience

Adobe Inc.

Research Scientist Intern

San Jose, CA

Summer 2022

- Advised by Kalyan Sunkavalli and Yannick Hold-Geoffroy
- Implementing variants of classical Photometric Stereo for color and surface normal estimation of novel materials

Lam Research Corporation

Data Science Intern II

Fremont, CA

Summer 2021

- Created a synthetic data testbed using data generated by a physical simulator for validating machine learning models

The Goldman Sachs Group, Inc.

Summer Technology Analyst

Jersey City, NJ

Summer 2020

- Developed a web dashboard for operations counterparts that expedited trending data analysis

Intel Corporation

Memory Controller IP Validation Intern

Fort Collins, CO

Summer 2019

- Re-designed a power management bus functional model for extended IP model use

Teaching Experience

18-290: Signals and Systems

Teaching Assistant

Pittsburgh, PA

Fall 2021 – Spring 2022

- Planned and led weekly recitations, held office hours, and graded assignments

18-491: Digital Signal Processing

Teaching Assistant

Pittsburgh, PA

Spring 2021

- Held office hours and graded assignments

Leadership/Service

CMU ECE Diversity, Inclusion & Outreach Committee

Peer Mentoring Subcommittee Member

Pittsburgh, PA

Fall 2021 – Spring 2022

- Collaborated with peers, faculty, and staff in establishing department led mentoring program
- Identified areas of improvement in the undergraduate student experience and brainstormed solutions to them

National Society of Black Engineers

Executive Board Member

Pittsburgh, PA

Fall 2018 – Spring 2021

- Served as Senator, Vice President, and Academic Excellence Chair over 3-year span
- Planned and executed engaging bi-weekly topical general body meetings for ~40 members
- Spearheaded and oversaw mentorship program pairing underclassmen with upperclassmen

Projects

Pitch Perfect (Capstone)

Pittsburgh, PA

Signal Processing Lead

Spring 2021

- Led signal processing development for singing performance evaluation web app
- Challenges included note detection and segmentation, clap detection, and denoising

Skills and Interests

Languages: Python, MATLAB, C++

Interests: Signal Processing, Machine Learning, Applied Mathematics

Awards and Honors

Graduate Education for Minorities (GEM) Fellowship

Fall 2021 & Fall 2022

Hispanic Scholarship Fund (HSF) Scholar

Spring 2021

CMU Senior Leadership Recognition

Spring 2021

Relevant Coursework

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|--|------------------------|-------------|
| 15-858: Discrete Differential Geometry | [link] | Spring 2022 |
| 10-725: Convex Optimization | [link] | Fall 2021 |
| 18-751: Applied Stochastic Processes | [link] | Fall 2021 |
| 18-797: Machine Learning for Signal Processing | [link] | Fall 2021 |
| 16-720: Computer Vision | [link] | Spring 2021 |
| 10-601: Introduction to Machine Learning | [link] | Fall 2020 |
| 18-793: Image and Video Processing | [link] | Fall 2020 |
| 18-792: Advanced Digital Signal Processing | [link] | Fall 2020 |
| 18-491: Digital Signal Processing | [link] | Spring 2020 |