

CARLOS MORENO

cmoreno@cs.cornell.edu | cs.cornell.edu/~cmoreno/

EDUCATION

Cornell University

Aug. 2018 – Ongoing

Ithaca, NY

- Ph.D. student in Computer Science
- Research interests: computer science education, specifically for URM; and machine learning, specifically for computational sustainability

California State University, Fresno

Aug. 2015 — May 2017

Fresno, CA

- Master of Science (M.S.) in Computer Science with Distinction
- 4.0 GPA
- Dean's Medalist for the College of Science and Mathematics
- Outstanding Graduate Award for the Department of Computer Science
- Thesis: Supporting Quality of Service in Real-Time Video Streaming Using the Kinect

California State University, Fresno

Aug. 2011 — May 2015

Fresno, CA

- Bachelor of Science (B.S.) in Computer Science with University Honors
- Magna Cum Laude, 3.82 GPA
- President's Honors Scholar
- Standard Bearer for the College of Science and Mathematics
- Outstanding Undergraduate Award for the Department of Computer Science

TEACHING HISTORY

Teaching Assistant, Department of Computer Science, Cornell University

Aug. 2018 – Ongoing

Ithaca, NY

- Head TA for an introduction to artificial intelligence course (CS 4700 with Bart Selman)
- Held office hours and answered questions via an online Q&A platform to aid students in understanding
- Graded assignments and supervised other TAs to ensure fair grading
- Responsible for managing all other TAs in the course

Adjunct Lecturer, Clovis Community College

Jan. 2018 – May 2018

Clovis, CA

- Instructed one course on discrete mathematics
- Created lectures, worksheets, programming assignments and exams
- Aided students outside of class through office hours and an online Q&A platform

Lecturer, Department of Computer Science, California State University, Fresno

Aug. 2017 – May 2018

Fresno, CA

- Instructed one course and ten labs for four other courses
- Reviewed the material taught in lecture to reinforce concepts
- Aided students outside of class through office hours and appointments
- Graded weekly lab assignments and responded to emails in a timely manner

Teaching Associate, Department of Computer Science, California State University, Fresno

Aug. 2015 – Dec. 2016

Fresno, CA

- Instructed eleven labs for five courses
- Created lab assignments that correspond to the lecture material
- Reviewed the material taught in lecture to reinforce concepts
- Aided students outside of class through office hours and appointments
- Graded weekly lab assignments and responded to emails in a timely manner
- Created and reviewed midterm and final mock exams

Camp Instructor, Department of Computer Science, California State University, Fresno

July 2015, July 2016, July 2017,
July 2018

Fresno, CA

- Co-instructed a summer camp for high school and middle school students with four other instructors
- Focused primarily on mobile app development using Android and Java
- Prepped tutorials and projects

Music Staff, Edison High School, Fresno Unified School District

Aug. 2011 – Oct. 2014

Fresno, CA

- Instructed the marching band and percussion group, augmenting my interpersonal communication skills by dealing with a variety of students, parents, and staff
- Director for the orchestra and the pep band, improving my problem solving skills when issues arose or were brought to my attention
- Built and maintained the music department's website
- Created a database and logged all the music in the library

EMPLOYMENT HISTORY

Research Assistant, Department of Computer Science, California State University, Fresno

Jan. 2017 – July 2017

Fresno, CA

- Researched for the project "MRI: Development of a Cloud Based Instruments for Heterogenous Biomedical Body Sensor Systems", NSF #1626586
- Worked with TinyOS, TelosB sensors, nesC programming and Shimmer3 sensors
- Mentored the undergraduate researchers
- Built and maintained the project's website
- Set up the server rack as a cloud system using OpenStack, Hadoop and TensorFlow

Web Developer, Department of Psychology, California State University, Fresno

May 2016 – Oct. 2017

Fresno, CA

- Built a website to replace the department graduate admissions process
- Diversified portal access for different roles, including student applicants, recommenders, faculty members, admissions reviewers, and administrators
- Created the full-stack (LAMP) from scratch
- Maintained database backups and time-sensitive system scripts

Web Administrator, College of Science and Mathematics, California State University, Fresno

Aug. 2016 – Oct. 2017

Fresno, CA

- Updating content for the college and departments
- Meeting with staff members of departments to discuss changes to their respective websites
- Attending workshops on social media, web development, privacy and security
- Created an online vehicle reservation system (full-stack, LAMP) from scratch
- Trained and mentored the new administrator

LIST OF COURSES TAUGHT

CSCI 5, Computer and Application (Lecture and Lab)

Spring 2018

- Introduction to using a computer: tools, applications and graphics
- Overview of the components of computer systems
- Discussion on software systems, electronic mail, influence of computers on society and the future of computing
- Extensive hands-on experience with application tools and programming

CSCI 26, Discrete Mathematics for Computer Science (Lecture)

Spring 2018

- Study elements of discrete mathematics with applications to computer science
- Topics include sets, propositional and predicate logic, relations and functions, proof techniques, graphs, trees and discrete probability
- C++ used as the primary programming language

CSCI 40, Introduction to Programming and Problem Solving (Lab)

Fall 2015, Spring 2016

- Introduction to problem solving, algorithm development, procedural and data abstraction
- Program design, coding, debugging, testing and documentation
- C++ used as the primary programming language

CSCI 60, Foundations of Computer Science (Lab)

Fall 2015, Fall 2017, Spring 2018

- Abstraction, iteration, induction, recursion, complexity of programs, data models and logic
- Haskell used as the primary programming language

CSCI 113, Introduction to Computer Organization (Lab)

Spring 2018

- Fundamental issues of computer design at register-transfer level
- Logical design of basic combinational and sequential modules
- Organization and design of major functional blocks: ALU, CPU, memory, cache, input/output, hard-wired and microprogrammed control
- Simulation of computer organization
- Introduction to high performance superscalar computer organization
- Verilog, VHDL, ModelSim and MIPS used

CSCI 115, Algorithms and Data Structures (Lab)

Spring 2016

- Review of basic data structures
- Graph, search paths and spanning trees
- Algorithm design and analysis of sorting, merging and searching
- Memory management, hashing, dynamic storage allocation
- Integration of data structures into system design
- C++ used as the primary programming language

CSCI 117, Structures of Programming Languages (Lab)

Spring 2016, Fall 2016

- General concepts and paradigms of programming languages
- Scope and binding rules, applications and implementations of language concepts
- Programming languages studied: C, C++, Java, Python and Scheme

CSCI 119, Introduction to Finite Automata (Lab)

Fall 2016, Fall 2017

- Strings, languages and fundamental proof techniques
- Regular expression, regular grammar, regular languages, finite automata, their interrelationship and their properties
- Introduction to context-free languages
- Haskell used as the primary programming language

LIST OF PUBLICATIONS AND PRESENTATIONS

(* = SPEAKER)

- Ming Li, Joseph Reeves and Carlos Moreno, "Multi-level Sample Importance Ranking Based Progressive Transmission Strategy for Time Series Body Sensor Data" in the International Journal of Computer and Telecommunications Networking.
- Carlos Moreno* and Ming Li, "A Progressive Transmission Technique for the Streaming of Point Cloud Data Using the Kinect" in the International Conference on Internet and Multimedia Technologies (ICNC), Maui, HI, March 5-8, 2018.
- Joseph Reeves, Carlos Moreno, Ming Li, Chengyu Hu and B. Prabhakaran, "Data Reliability-Aware and Cloud-Assisted Software Infrastructure for Body Area Networks" in the International Conference on Body Area Networks (BODYNETS), Dalian, China, Sept. 28-29, 2017.
- Joseph Reeves, Carlos Moreno and Ming Li, "An Architecture for Cloud Based Body Sensor Systems", poster presentation at the College of Science and Mathematics Celebration of Student Research and Achievement, May 12, 2017.

- Carlos Moreno* and Ming Li, "A Progressive Transmission Scheme for Kinect-Based Point Cloud Data Video Transmission", poster presentation at the College of Science and Mathematics Celebration of Student Research and Achievement, May 12, 2017.
- Carlos Moreno*, Yilin Chen and Ming Li, "A Dynamic Compression Technique for Streaming Kinect-Based Point Cloud Data", poster presentation at the International Workshop on Interactive and Spatial Computing (IWISC), Richardson, TX, April 13, 2017.
- Carlos Moreno and Ming Li, "Frame Filtering and Skipping for Point Cloud Data Video Transmission", in the Advances in Science, Technology and Engineering Systems Journal, vol. 2, no. 1, pp. 76-83 (2017).
- Carlos Moreno, Yilin Chen and Ming Li, "A Dynamic Compression Technique for Streaming Kinect-Based Point Cloud Data" in the International Conference on Computing, Networking and Communications (ICNC), Silicon Valley, CA., January 26-29, 2017.
- Carlos Moreno* and Ming Li, "A Comparative Study of Filtering Methods for Point Clouds in Real-Time Video Streaming" in the International Conference on Internet and Multimedia Technologies (ICIMT), San Francisco, CA., October 19-21, 2016.
- Carlos Moreno* and Ming Li, "A Survey of Filtering Methods for Point Clouds in Real-Time Video Streaming", poster presentation at the College of Science and Mathematics Celebration of Student Research and Achievement, May 12, 2016.
- Carlos Moreno*, Yilin Chen and Ming Li, "Real-Time Video Streaming Using The Kinect", poster presentation at the College of Science and Mathematics Celebration of Student Research and Achievement, May 7, 2015.
- Carlos Moreno*, Yilin Chen and Ming Li, "Real-Time Video Streaming Using The Kinect", oral presentation at 36th Annual Central California Research Symposium, April 22, 2015.

SERVICE

- Leadership: President of the Computer Science Club for 2015-2016, restarted the club from a hiatus, organized club and officer meetings, volunteered at local community events, organized guest speaker events, participated in hackathons, organized co-sponsored events with Microsoft
- Mentorship: helped students in the College of Science and Mathematics' First Year Experience (CSM FYE) program with sensor-based data collection and analysis