Ryan Moreno

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PERSONAL STATEMENT

My career goals are (1) to further foundational knowledge in computational theory, specifically complexity theory, through research and collaborations and (2) to empower others through teaching and mentorship. With these goals in mind, I aim to become a CS theory professor.

EDUCATION

University of Wisconsin-Madison Expected: May 2025
- Ph.D. in Computer Science 4.0 GPA

University of Southern California May 2020
- Bachelor of Science 3.99 GPA
- Major in Computer Science, Minor in English
- Renaissance Scholar, Discovery Scholar, and Engineering Honors

AWARDS

- USC Valedictorian Finalist (institutional award; 6 finalists) 2020
- USC Computer Science Outstanding Student Award (departmental award; 17 awarded) 2020
- Renaissance Scholar Distinction and Prize Recipient (institutional award; 10 awarded) 2020
- Discovery Scholar Distinction and Prize Finalist (institutional award; 35 finalists) 2020
- Viterbi Award for Best Research Paper: 1st Place (school-wide award) 2020
- Viterbi Award for Best Analytical/Expository Essay: 3rd Place (school-wide award) 2020
- Trustee Scholar Full-Tuition Scholarship (institutional award; 117 awarded) 2016-2020
- National Merit Scholar (national award; 0.475% acceptance) 2016
- Viterbi Fellow (school-wide award) 2016-2020
- W.V.T Rusch Undergraduate Engineering Honors Program (school-wide award) 2016-2020
- Dean's List (institutional award) 2016-2019

RESEARCH EXPERIENCE

Cross-Institutional CS Education Research Team Oct 2020 - present

Merit Research Fellow, Undergraduate Honors Thesis

- Interviewed undergraduate CS students to understand and categorize misconceptions in dynamic programming, a fundamental paradigm in undergraduate algorithms courses

USC Intelligence and Knowledge Discovery Research Lab Sep 2019 - May 2020

Merit Research Fellow, Undergraduate Honors Thesis

- Implemented novel distantly-supervised machine learning techniques that use trigger phrases to recognize named entities in sentences
- Developed algorithms to generate adversarial examples for NER, evaluating the robustness of existing state-of-the-art NER models

USC WRIT 340: Advanced Writing for Engineers Sep 2018 - Dec 2018

Research Proposal

- Completed a literature review of rule-based poetry generation and deep learning techniques for creative image and sound generation
- Developed a proposal to use deep learning for automated poetry generation
- Presented the proposal at the Viterbi Student Speaker Symposium
- Received the Viterbi Award for Best Research Paper (1st place)

USC Interaction Lab Jan 2017 - May 2017

Merit Research Fellow

- Developed socially-assistive robots to teach social skills to children with autism in a non-intimidating environment

Oregon State University Walker Lab Jun 2015 - Aug 2015

Research Intern

- Fabricated microfluidic devices to measure extensional viscosity using 3D printing, photolithography, and soft lithography
- Presented at the Apprenticeships in Science and Engineering Symposium

TEACHING EXPERIENCE

UW-Madison Aug 2020 - present

Head Teaching Assistant

CS 577: Introduction to Algorithms

- Taught two weekly discussion sections, developed course content and supplemental materials, managed student progress, directed undergrad TAs, held office hours, and graded coursework

USC Viterbi Aug 2017 - July 2020

Undergraduate Teaching Assistant

CSCI 103: Introduction to Programming

- Taught weekly lab sections, held office hours, graded assignments, and proctored and graded exams

CSCI 170: Discrete Methods in Computer Science

- Taught weekly discussion sections, created course content and supplemental materials, held office hours, graded assignments, and proctored and graded exams

CSCI 270: Introduction to Algorithms and the Theory of Computing

- Taught weekly discussion sections, created course content and supplemental materials, held office hours, graded assignments, and proctored and graded exams

K-12 Tutoring and Classroom Assistance Aug 2016 - May 2020

See "service" section below

INDUSTRY EXPERIENCE

Microsoft May 2019 - Aug 2019

Software Development Intern

- Created a feature supporting the import of Office documents into the Microsoft Whiteboard App (released to the public October 2019)
- Spanned product management, design, business operations, and software development

- Created code actions for Q# (Microsoft's Quantum language) within VS Code as a hackathon project

Facebook May 2018 - Jul 2018

Software Development Intern

- Implemented a new approach to app event tracking within Facebook's software development kit for iOS apps
- Worked server-side and app-side for full stack development
- Designed a new timeline privacy setting as a hackathon project

Metro Paws May 2017 - Jul 2017

Product Design Intern

- Researched, interviewed, and selected alternate manufacturing facilities
- Redesigned a doggy bag dispenser and designed a cat bed and display using AutoCAD
- Researched alternate, eco-friendly materials

USC 3D4E Jan 2017 - May 2017

Lab Tech

- Held weekly lab hours to assist members with 3D printing

PUBLICATIONS

- Bill Yuchen Lin, Dong-Ho Lee, Ming Shen, Ryan Moreno, Xiao Huang, Prashant Shiralkar, and Xiang Ren. *Entity Triggers: Learning with Explanations for Named Entity Recognition*. Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics. 2020.
- Ryan Moreno. *A Kid's Guide to Coming Out*. Introducing Magazine. 2018.

PRESENTATIONS

- Ryan Moreno. *Automated Poetry Generation using Deep Learning*. Viterbi Student Speaker Symposium, University of Southern California. November 2019.
- Ryan Moreno. *Introduction to Secure Mutli-Party Computation*. Cryptography: Secure Communication and Computation, University of Southern California. November 2019.
- Ryan Moreno. *Fabrication of Microfluidic Devices for Advanced Rheological Measurements*. Apprenticeships in Science and Engineering Symposium, Portland, OR. August 2015.

CONFERENCES

- Out for Undergrad: LGBTQ+ tech conference Sep 2018
- AthenaHacks: *received runner-up for best iOS app* Apr 2017
  - Created a "choose your own adventure" iOS app to teach children about bullying

TECHNICAL SKILLS

- *Programming Languages:* C++, C#, PHP, Java *(intermediate)*
- *Programming Languages:* Obj-C, Python, Prolog, Racket, JavaScript *(basic)*
- *CS Skills:* SQL, Networking *(basic)*, LaTeX *(intermediate)*
- *Engineering Skills*: Solidworks, CAD, 3D Printing, Woodworking, Machining, Welding *(intermediate)*

SERVICE

USC Troy Camp Aug 2018 - May 2020

Counselor and Mentor

- **TC Leads**
  - Tutored and mentored high school students weekly
  - Led workshops in topics left out of school curriculums such as financial literacy and postgraduate opportunities
- **Elementary Programming**
  - Tutored and mentored elementary school students weekly
  - Taught after school dance, PE, and sports programs
- **Summer Camp**
  - Led a cabin of ten 4th grade boys during a week-long sleep away camp
  - Hosted monthly events for these same ten students during the school year

USC Joint Educational Program Aug 2016 - Dec 2016

Classroom Assistant Aug 2017 - Dec 2017

- Assisted in an 8th grade math class
- Taught a mini-course on poetry in a 5th grade English class

USC Project 32 Jan 2017 - May 2017

Classroom Assistant

- Assisted in a 12th grade study hall for students at risk of not graduating

USC RoboGals Jan 2017 - Dec 2017

Events Chair

- Engaged elementary and middle school girls in STEM through Lego robotics and engineering workshops

INTERESTS

Triathlon, Backpacking *(guide)*, Creative Writing *(published)*, Piano