Carlos Salinas

Mobile: 765-337-9606
Email: cemiliosal@gmail.com
GitHub: github.com/cdrlos
Linkedin: linkedin.com/in/carlos-salinas-64588b160

Education

Purdue University, West Lafayette, IN — Aug. 2020
Master of Science in Mathematics — GPA: 3.73/4.0

University of Texas–Pan American, Edinburg, TX — May 2014
Bachelor of Science in Mathematics — GPA: 3.86/4.0

Skills

Programming Languages: Python, C, R, Java, MATLAB/Octave, SQL
Developer Tools: Git, Emacs, Vim, GCC, Valgrind, Gradle
Other Software: Linux, LaTeX, Markdown, Bash, Awk
Natural Languages: English—native, Spanish—native, Russian—fluent, Persian—conversant, French—proficient

Work Experience

Research Assistant/Teaching Assistant — Aug. 2014 – May 2020
Department of Mathematics at Purdue University — *West Lafayette, IN*

- Led recitation sections for undergraduate math courses, including Calculus 1, 2, 3, Differential Equations, and Linear Algebra. Graded homework, wrote quizzes, and proofread exams.
- Hosted a website built using Jekyll to post math related content for students, including notes, links to university resources, course related deadlines, practice problems, quiz solutions, and class quiz and midterm statistics.
- Worked under Dr. Ben McReynolds on effectivizing a result of Bridson–Conder–Reid on profinite rigidity of triangle groups and a broader problem on the feasibility of using finite quotients as a quasi-metric on its profinite completion. Wrote a program in GAP to compute finite quotients, narrowing the search space through the congruence subgroup property.

Undergraduate Research Assistant/System Administrator — Sep. 2013 – May 2014
Experimental Algebra & Geometry Lab at the University of Texas–Pan American — *Edinburg, TX*

- Managed the lab's Fedora cluster. Updated and installed software. Managed users and users' permissions. Configured the lab's Nvidia GPU for usage with Mathematica's CUDALink.
- Wrote an program in Mathematica to effectively compute 2-special words families up to word-length 40. Published the sequence of such words on the On-line Encyclopedia of Integer Sequences A237623. This work was presented at the Character Varieties and Geometry Structures Workshop held at Howard University.

Undergraduate Research Assistant — Jun. 2010 – Aug. 2010
Department of Materials Science and Engineering at the Massachusetts Institute of Technology — *Cambridge, MA*

- Studied the shape-memory and superelastic properties of Ti-Ta under Dr. Sam Allen and Jeff Disko. Tested heat-treated Ti-Ta alloys of various compositions for shape-memory and superelastic properties by means of hot oil recovery test. Took metallographs of samples to study the microstructure. Mechanical tests such as tensile test and fatigue tests were performed and recorded.

Outreach Experience

Academic Boot Camp for Purdue's Minority Engineering Program — June 2018 – Aug. 2018
College of Agriculture at Purdue University — *West Lafayette, IN*

- Simulated a 1st semester Calculus experience for incoming undergraduate students in the MEP. Prepared and graded student homework and midterms. Assigned final letter grades and gave course recommendations.

Outreach Assistant for the Experimental Algebra & Geometry Lab — Jan. 2013 – May 2014
Experimental Algebra & Geometry Lab, the University of Texas–Pan American — *Edinburg, TX*

- Participated in Dr. Sean Lawton's outreach program designed to introduce K12 students to higher level mathematics such as modular arithmetic, complex numbers, and spherical geometry through kinesthetic activities. Introduced older community members to hyperbolic crocheting.