Carlos Salinas

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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*

Technical Skills

Programming Languages: Python, C, Java, R, Julia, 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

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

- 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, such as notes, links to university resources, course related deadlines, practice problems, quiz solutions, and class quiz and midterm statistics.
- Studied finite quotients of triangle groups and nilpotent groups. Wrote a program in GAP to compute finite quotients to distinguish inequivalent triangle groups following a result by Bridson–Conder–Reid that triangle groups are profinitely rigid.

School of Mathematical and Statistical Sciences, University of Texas–Pan American Edinburg, TX
Undergraduate Research Assistant/System Administrator *Sep. 2013 – May 2014*

- Managed the Experimental Algebra and Geometry Lab's Fedora cluster. Administered users and user permissions, updated software, and configured the lab's Nvidia GPU for usage with Mathematica's CUDALink.
- Wrote an program in Mathematica to compute 2-special word families up to word-length 30 using trace formulas to significantly reduce the search space. Published the sequence of such words on the On-line Encyclopedia of Integer Sequences A237623. Presented the result at the Character Varieties and Geometry Structures Workshop held at Howard University.

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

- Tested heat-treated Ti-Ta alloys of varying compositions for shape-memory and superelastic properties by means of hot oil recovery test. Took metallographs of samples to study the microstructure. Performed of mechanical tests, such as tensile test, and fatigue tests, and recorded the results.

Outreach Experience

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

- Simulated a first 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.

School of Mathematical and Statistical Sciences, University of Texas–Pan American Edinburg, TX
Outreach Assistant for the Experimental Algebra & Geometry Lab *Sep. 2012 – May 2014*

- Introduced K12 students to higher level mathematics such as modular arithmetic, complex numbers, and spherical geometry through kinesthetic activities. Introduced senior members of the community to hyperbolic crocheting and non-Euclidean geometry.