DIEGO AVALOS

Email: dihego91@hotmail.com • *Website*: DiegoAvalos.net

Education

- **California State Polytechnic University, Pomona** — June 2018
M.S. in Applied Mathematics — GPA: 3.93
- **University of California, Berkeley** — May 2016
B.A. in Mathematics — GPA: 3.70

Projects

- **Master's Thesis: An Alternative Algorithm to Matlab's `expm` Function**
  * Implemented an algorithm which numerically computes the matrix exponential of real skew-symmetric matrices.
  * Made computer simulations which show that the algorithm gives a better error than Matlab's function `expm`.
- **Endless Math Exercises Algorithms**
  * Created and implemented an algorithm that randomly generates solvable linear systems of equations.
  * Created and implemented an algorithm that randomly generates binomial probability questions.
  * The implemented algorithms allow students to obtain access to virtually unlimited math exercises.
  * Instructors can use the implemented algorithms to generate math exercises to assign as homework.

Languages and Technologies

- *Advanced Level:* Matlab; R; Microsoft Excel; C#. LaTeX.
- *Intermediate Level:* Python; HTML5; CSS3.
- *Currently Learning:* Unity.
- *Other Technologies:* Jupyter; Visual Studio; GitHub; R Markdown.

Relevant Coursework

- *Graduate:* Mathematical Modeling, Mathematical Programming, Numerical Linear Algebra, Error Analysis, Applied Linear Regression, Linear Statistical Models, Optimization Theory and Applications.
- *Undergraduate:* Applied Probability and Statistics, Numerical Analysis, Discrete Mathematics, Physics.

Activities, Memberships, and Awards

- *Membership:* Member of Society for Industrial and Applied Mathematics (SIAM). — January 2017 - Present
- *Position:* Science Council Representative of the SIAM Chapter at Cal Poly Pomona. — September 2017 - June 2018
- *Talk:* American Mathematical Society speaker at UC Riverside. — November 2017
- *Award:* SIAM Integration Bee Winner at Cal Poly Pomona. — 2017 and 2018
- *Award:* Top 8 winner at the Academic Triathlon at Saddleback College. — 2012 and 2013
- *Award:* The National Science Foundation S-STEM Scholarship. — May 2013
- *Award:* The Dr. Steve Sworder Memorial Mathematics Scholarship. — May 2013
- *Membership:* Phi Theta Kappa Honor Society Member. — 2012 - Present
- *Volunteering:* Math Tutor at Saddleback College. — January 2012 - May 2012

Employment

- **Graduate Teaching Associate, Cal Poly Pomona** — January 2018 - June 2018
  * Taught intermediate algebra classes as the main instructor.
- **Academic Excellence Workshop Facilitator, Cal Poly Pomona** — September 2017 - December 2017
  * Helped calculus students from the *SEES* program succeed in integral calculus.
- **Math Teacher, C2 Education** — March 2017- September 2017
  * Created lessons daily for high school students preparing for the ACT/SAT, and AP exams.
  * Suggested curriculum for advanced math students.
- **Workshop Leader, UC Berkeley** — July 2016 - August 2016
  * Helped freshmen succeed in their first math class (college algebra) at UC Berkeley during *Summer Bridge*.
  * Conducted daily workshops for a section of the class, and graded tests.
- **Math and Physics Tutor/Supplemental Instructor, Saddleback College** — June 2012 - April 2014
  * Tutored all math and physics classes offered at Saddleback as a general tutor.
  * Held weekly office hours for calculus students as a supplemental instructor for three professors.
  * Helped engineering students succeed in the accelerated math program *OC Bridge 2 Engineering* for two summers.