Juan Trejo

jtrejo13@utexas.edu | (703) 477-6702

EDUCATION

UNIVERSITY OF TEXAS
MS, Mech Engineering and Scientific Computing
Expected: May 2018 | Austin, TX
Cum. GPA: 3.6/4.0

UNIVERSITY OF TEXAS
BS, Mechanical Engineering
Dec 2012 | Austin, TX
Cum. GPA: 3.83/4.0
Major GPA: 3.91/4.0
Dean's List

LINKS

Website:// jtrejo13.com
Github:// jtrejo13
LinkedIn:// jtrejo13

COURSEWORK

GRADUATE
Software Engineering
Object Oriented Programming
Advanced Scientific Computation
Generic Programming and the STL
Parallel Programming
Scientific and Technical Computing
Computational Fluid Dynamics
Programming in Python

SKILLS

PROGRAMMING
Over 3000 lines:
C++ • Python
Over 1000 lines:
MATLAB • Objective-C • C
Familiar:
Swift • JavaScript • CSS • HTML

ORGANIZATIONS

- Coders Across Disciplines
- Tau Beta Pi Engineering Honor Society
- Pi Tau Sigma Mechanical Eng. Honor Society

ACADEMIC EXPERIENCE

CODERS ACROSS DISCIPLINES | C++ and Python Instructor
May 2017 – Present | Austin, TX

- Leading weekly coding workshops for 20+ UT students
- Teaching core computer science concepts - such as, data structures, recursion, graph search and sorting algorithms

RESEARCH

REACTIVE FLOW MODELING LAB | Graduate Researcher
May 2017 – Present | Austin, TX

- Studied the effects of hydrogen and nitrogen on soot formation in laminar ethylene/air diffusion flames through direct numerical simulation (DNS)

PROFESSIONAL EXPERIENCE

CUMMINS INC. | Test Engineer
Dec 2014 – July 2016 | Indianapolis, IN

- Developed a new experimental method to identify the Cummins DEF Supply Unit's cavitation onset at various environmental conditions
- Created robust test plans, utilizing risk identification tools such as FMEA, Fault Tree Analysis, and Seven Step Problem Solving

CUMMINS INC. | Design Integrator
Feb 2013 – Dec 2014 | Indianapolis, IN

- Coordinated with the manufacturing and purchasing teams in the U.K. to ensure 100% on time assembly of prototype engines
- Collaborated with engineers in the US and India to align engine design and testing work with program milestones

PERSONAL PROJECTS

POCKET MATLAB | Summer & Fall 2017

- Implemented a simplified version of MATLAB in C++ for iOS featuring basic linear algebra functions
- Main features included fundamental matrix operations, matrix factorization, linear equation solving, computation of eigenvalues and eigenvectors

KEY | Fall 2017

- Developed an iOS app in Objective C that allows users to effortlessly share their 'online presence' with friends, colleagues and/or followers
- The application generates QR Codes composed of user-selected online profiles, and provides code scanning capability

PAC-MAN AI | Fall 2017

- Implemented fundamental Artificial Intelligence concepts in Python: A*, minimax, expectimax search; reinforcement learning; classification; Bayesian inference

MEAL-SHARING PLATFORM | Spring & Summer 2016

- Built a 'minimum viable product' iOS application to connect home cooks to consumers. Features included locating nearby cooks, browsing their menus, and making in-app orders and payments