jtrejo13@utexas.edu
(703) 477-6702

Juan Trejo

206 E. 31st St. Apt B
Austin, TX 78705

EDUCATION

The University of Texas at Austin

Candidate for Master of Science in Mechanical Engineering and Computational Engineering; GPA: 3.6/4.0 May 2018

- Relevant Coursework: Computational Fluid Dynamics (CFD), Scientific and Technical Computing, Python

Bachelor of Science in Mechanical Engineering, Honors; GPA: 3.83/4.0 December 2012

- Relevant Coursework: Turbomachinery and Compressible Flow, Thermal-Fluid Systems, Engr. Computational Methods

PROFESSIONAL EXPERIENCE

Teaching/Laboratory Assistant, *The University of Texas at Austin* August 2016–Present

- Leading 3 Fluid Mechanics laboratory sessions of 9+ students, providing direction and supervision in the setup and execution of experiments

Senior Product Validation Engineer, *Cummins Inc.* December 2014–July 2016

- Led a yearlong investigation on the impact of cavitation on the reliability of the Cummins DEF Supply Unit (SU) installed on 100% of North America's on and off-highway aftertreatment systems
- Collaborated with a team of 4 engineers to develop a new experimental method to identify the SU's cavitation onset at various environmental conditions
- Wrote and published an in-depth technical report and presented findings to the leadership team
- Collaborated closely with engineers in Germany to create robust component validation test plans, utilizing risk identification tools such as FMEA, Fault Tree Analysis, and Seven Step Problem Solving

Design Integrator, *Cummins Inc.* February 2013–December 2014

- Coordinated with the manufacturing and purchasing teams in the UK 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
- Communicated engine design stability to Chief Engineers and Program Managers throughout the product development cycle

SOFTWARE PROJECTS

Cofounder and Lead Developer, *Meal Sharing Platform* April 2016–Present

- Built a 'minimum viable product' iOS application in Objective-C that allows home cooks to sell meals to nearby consumers
- Implemented Shopify's iOS Buy SDK to enable in-app credit card and PayPal payments

ACADEMIC EXPERIENCE

Undergraduate Researcher, *Microfluidics Laboratory* May–December 2012

- Investigated wetting characterization of various surfaces under different environmental conditions and identified deficiencies in the experimental setup to reduce experiment duration by 50% and minimizing data variability
- Upgraded contact angle calculator MATLAB software, decreasing data processing time by 40 minutes per experiment

Treasurer, *Tau Beta Pi – Engineering Honor Society* May–December 2012

- Managed $20,000 worth of finances for the organization
- Identified cost saving opportunities in an effort to raise $25,000 for a Tau Beta Pi sponsored scholarship

Team Member, *Senior Design Project – Chevron* August–December 2012

- Developed a model in C++ to simulate auto-refrigeration and heat transfer effects during blowdown of a pressurized steel vessel
- Calculated the average temperature along the vessel walls and identified areas of potential embrittlement. Provided Chevron with a recommended an optimal wall thickness to the project sponsor through a technical report and team presentation

Team Member, *Analysis of a Microturbine/Rankine Cycle Power System Project* January–May 2012

- Developed a MATLAB model of a natural gas microturbine coupled with an ORC to generate a performance map

SKILLS

- Experience with C++, MATLAB, Objective C
- Familiar with Java, Swift, Python, WebDev Languages (HTML, CSS, Javascript), PTC Creo, LabVIEW