

# Francisco De La Paz

510-676-3143 | francodelapaz@gmail.com | francodelapaz.weebly.com

## EDUCATION

### STANFORD UNIVERSITY

*Master of Science, Mechanical Engineering, June 2015, GPA: 3.73/ 4.0*

Stanford, CA  
2013-2015

- Relevant courses: Smart Product Design Fundamentals (Mechatronics); Experimental Stress Analysis; Sensors; Computer-Aided Product Creation; Nano and Micro Electromechanical Systems (N/MEMS); Silversmithing; Injection Molding; Scaled Manufacturing Tooling; Finite Element Analysis in Mechanical Design

### STANFORD UNIVERSITY

*Bachelor of Science, Mechanical Engineering, June 2013, GPA: 3.77/ 4.0 (in Mechanical Engineering coursework)*

Stanford, CA  
2009-2013

- Relevant courses: Product Design and Manufacturing; Mechanics of Materials; Circuit Analysis; Vibrations and Controls; Compressible Flow and Turbo machinery; Medical Device Design

## EXPERIENCE

### Nanoscale Prototyping Laboratory, Stanford University

Stanford, CA

#### Graduate Research Assistant

June 2013-June 2015

- Designed a mobile ALD station, a complex electrical and mechanical system, to study in-situ surface chemistry.
- Created complex CAD assemblies using SolidWorks with a focus on design for manufacturability (DFM).
- Communicated with vendors and suppliers to ensure components were manufactured within the required specifications.
- Led the design of a module that interfaced with a spectroscopy tool (FTIR) for further in-situ analysis.

### Apple Inc.

Cupertino, CA

#### Manufacturing Design Engineering Intern

Summer 2014

- Identified the root-cause of a recurring manufacturing defect and proposed design and process solutions as part of a fast-paced engineering group.
- Conducted a broad investigation and designed a novel and effective diagnostic tool.
- Met with vendors in China to implement process improvements and solve issues on other assignments.

### Stanford School of Medicine: Orthopedic Research

Stanford, CA

#### Design Consultant

Fall 2013

- Consulted with an orthopedic surgeon to design a surgical device that improves the healing of ruptured tendons and broken bones.
- Continually incorporated feedback to develop designs in SolidWorks and advised on ergonomics, material choice, size, weight, and manufacturing; created prototypes from cardboard, 3D printing, and CNC.

### Stanford Microfluidics Laboratory

Stanford, CA

#### Undergraduate Research Assistant

June 2012-April 2013

- Led the design of a mouse-cage-mountable remote-controlled thermo-cooled drug delivery pump that interfaced with an Arduino.
- Created a reliable mechanism for an implantable version that met our design constraints using a very low-current and low-speed motor as a viable alternative.
- Utilized various prototyping tools including a 3-axis CNC mill and 3D printer.

### Soft Tissue Biomechanics Laboratory

Stanford, CA

#### Stanford Undergraduate Research Institute Fellow

Summer 2011

- Selected for a highly competitive ten-week summer research project; worked alongside a Ph.D. student on protocols and carried out experiments relating to photochemical bonding of knee cartilage.
- Designed testing apparatus for a confined compression test of knee menisci.
- Coauthored a publication on findings and developments.

## PATENTS & PUBLICATIONS

2014 "Heating Element for Reducing Foaming During Saliva Collection." USPTO Application #: 20140360509. Filed: Jun. 6, 2014.

2011 "A Comparison of Photosensitizers to Promote Photochemical Bonding of Articular Cartilage Defects." Accepted, ORS.

## HONORS/ACTIVITIES

Current NSF – GRFP: National Science Foundation – Graduate Research Fellow Program.

Current Mentor undergraduates from underrepresented backgrounds pursuing Mechanical Engineering degrees.

'14 - '15 Community Associate: Representative for Stanford Residential Education and first point of contact for residents.

Summer 2015 CLYLP Facilitator: Group leader to 10 leadership conference participants by being positive role model and resource.

## TECHNICAL SKILLS

- MATLAB, Java, Python, C++, SolidWorks, CAM, CNC (Hass and Fanuc), Injection Molding, FEA, ANSYS (Mechanical APDL and WorkBench), 3D Printing (FDM & SLA), Sensofar, CMM, Welding, Silversmithing, Investment Casting, ALD, PVD
- Languages: Spanish (fluent) and Intermediate German (Studied abroad in Berlin, Germany)