Thomas Fernando Valenzuela III

Current Residence:
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Home Residence:
1749 W. Potrero Dr.
Nogales, AZ 85621

Education:

University of Minnesota, Department of Biomedical Engineering – PhD *Biomedical Engineering* **September 2017-Present**
GPA: 3.596 Visible Heart Laboratories

University of Arizona, College of Engineering – B.S. *Biomedical Engineering* **August 2013 - May 2017**
GPA: 3.31 SHPE member Gates Scholars Club Campus Based Leader SigEp Fraternity

Professional / Work Experience:

Visible Heart Lab – *Mentored by Dr. Paul Iaizzo, Professor of Surgery* **September 2017 – Present**

- Assist with weekly in vitro studies performed in the Visible Heart apparatus
- Interact and work closely with US and International Physicians as well as Medtronic personnel on a regular basis
- Highly experienced with Coronary Drug-Eluting Stents and bifurcation technique procedures
- Skilled in 3D modeling, printing of stents using Mimics and 3-Matic and video editing bifurcation procedures,

Stuttgart University Program for Experiencing Research – *Mentored by Dr. Uwe Wössner* **May 2016-August 2016**

- Spent 12 weeks in Stuttgart, Germany, working at the University of Stuttgart High Performance Computing Center (HLRS)
- Advanced my knowledge coding in C++ and learned to work visual renderers such as Covise and OpenStreetMap
- Learned to write and open programs that worked in *The CAVE* visual 3-D simulation environment
- Ran programs and simulations using the University's Cray XE6 supercomputer
- Learned to adjust living, working and interacting with the people of an unfamiliar area and language

Unpowered ExoSkeleton Project – *Sponsored by Hermelinda Bristol* **August 2016 – June 2017**

- Worked on designing a personalize exoskeleton that will allow a patient with cerebral palsy to stand and walk
- Operated with five other engineers of different disciplines, as well as our sponsor, to design, test and deliver a final product

Aztera, LLC – *Internship* **May 2015-August 2015**

- Worked with other engineers using SolidWorks to develop a new umbilical cord ring for AGA Umbilical.
- Began development for a SleepApnea App to help diagnose sleep apnea in the comfort of one's own home.
- Assisted in a variety of other projects for various companies, such as Intel and First Solar, perfecting my wiring, soldering, welding, cable management and software programming skills.

Community Service/Volunteering:

St. Andrews Episcopal Church Children's Clinic - *Interpreter / Assistant* **August 2009-August 2017**

- Translated between non-Spanish speaking Doctors and non-English speaking children and parents from Mexico who attended the monthly children's clinic
- Worked with a variety of Doctors from Pediatricians, Nutritionists, Optometrists, Otolaryngologists, Pathologists, and Physical Therapists to work with numerous children with different disabilities
- Aided in the' collection and distribution of children's clothing, blankets, toys and equipment for those in need

Publications:

Thomas Valenzuela, Michael Bateman, Tinen Isles, Paul A Iaizzo "*Simulating Blood Flow in Healthy Swine Coronary Arteries After Bifurcation Stent Procedures*" Poster Presentation given at the Design of Medical Devices Conference on April 2019, Minneapolis MN

Thomas Valenzuela, Michael Bateman, Tinen Isles, Paul A Iaizzo "*Analysis and comparison of bifurcation stenting in ex vivo swine hearts using post procedural 3D imaging*" Poster Presentation given at the Institute for Engineering in Medicine on September 2018, Minneapolis MN

Honors / Awards:

University of Arizona, Dean's List **Fall 2013-Fall 2015**
Gates Millennium Scholarship – *Full Ride Undergraduate / $40,368 per year – Graduate School* **May 2013-Present**
Wildcat Excellence Scholarship - *$6,000 / year* **May 2013-May 2017**
Benjamin A. Gilman International Scholarship - *$5,000* **May 2016**

Interests: Competitive Weightlifting, College Intramurals, Football, Hockey, Cooking, Reading, and Math for fun