Shilpika (Pi) Chowdhury

Semiconductor and Device Fabrication, Implantable Microsystems, Medical Technology Innovation, UX/Product Design

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Summary

My passion is building things. I'm a Materials Scientist and Bioengineer, but I love all things related to creation. I'm an artist and a scientist (see my website at http://shilpikachowdhury.com) but I also like to explore different industries and learn about new technologies. You may have noticed the diversity of experiences in my profile, and I believe that this experience gives me a fresh perspective when approaching problems. Many people tell me that they appreciate my ability to predict issues right from the start and plan solutions into my designs.

My ideal work would be harnessing my ability to quickly understand and communicate facets of new technologies to connect technologies that deserve to be together. I also like to derive mathematic relations (people call them back of the envelope) and to see trends in data and iterate on approaches. I derive a lot of pleasure from carefully designing something that eventually I get to hold in my hands.

Most of my experience is in wafer processing (microfab), electron microscopy, and dealing with material-organism interactions. I also use quite a bit of 3D printing for prototyping, and my favorite tool is a laser cutter.

I have industry experience, and I like to think that the best way to innovate at this point is to process the IP that already exists and compress that into a paradigm shift. My mission in life is to optimize and initiate the personalized preventative care movement. And to do it right.

Experience

Wafer Scale Engineer, Implantable Microsystems at Medtronic
July 2015 - Present (1 year 1 month)
- Implantable Devices
- Semiconductor Fabrication Processes
- Wearable Technology
- Sensors (Implantable, Wearable)
- Spinal, Cardiac, and Diabetes

Graphic, UX, and Product Design at Ferro Technologies
January 2015 - Present (1 year 7 months)

BioTech Consultant at Self Employed
December 2014 - Present (1 year 8 months)
- Experimental Overview Evaluation

Angel Investment Consulting

Undergraduate Researcher at Lawrence Berkeley National Laboratory

June 2012 - July 2015 (3 years 2 months)

Developing TEM imaging techniques (UCB NanoLab)
Sterile cell culture (Tetrahymena, Chlamydamonas)
Micro-scale dissection (Gryllus bimaculatus)
Training Incoming Researchers
Resin embedding and osmium-stain sample preparation
Tomography (Particle Estimation for Electron Tomography)
Diffraction analysis in TEM
Introduction to polymer characterization
Fabrication of graphene and graphene coated TEM grids
Preparation methods for cryomicroscopy

Undergraduate Researcher at UC Berkeley

January 2015 - June 2015 (6 months)

3D Modeling and Device Design (Resin and Filament)
Biomedical devices in Animal Studies
Experimental Design
FDA Compliant Polymeric and Biodegradable Material Selection

Wafer Scale Packaging Process Intern at Medtronic

May 2014 - August 2014 (4 months)

Photolithography, Mask Design, Microfabrication
Biostability & Biocompatibility material properties
Six Sigma, Lean Sigma, and Designed Experiments
IP and Patent Preparation
Reactive Plasma Etch (Metal, SILOX), Sputtering, LPCVD
Reconciling medical requirements with fabrication limitations
Business Relations (Integration of Novel External Resources/New Technologies)
Material Characterization

Computing Consultant at UC Berkeley Student Affairs Information Technologies

August 2012 - September 2013 (1 year 2 months)

Unix Navigation and Networking
Resident Relations
OSX/Linux/Windows Troubleshooting
Residential Informational Presentations

Pre-Collegiate Researcher at Arizona State University

August 2010 - August 2011 (1 year 1 month)

Helped Maintain the Telomerase Database (Sequencing)

Executed PCR

Poured and ran agarose gels

NanoDrop for protein quantification

Lab maintenance and safety

Found DNA BLAST results from NCBI and processed data

Cell disruption

Biological culture and DNA/RNA modification

Concert Photographer at Mish Mash Magazine

June 2008 - July 2011 (3 years 2 months)

Attended and photographed shows for the magazine. http://mishmashmag.blogspot.com/

Medical Equipment Intern at Curtis Orthodontics

June 2008 - August 2008 (3 months)

Volunteer Experience

Program Assistant at Hope's Crossing

January 2016 - Present

ISEF Grand Award Judge,Biomedical Engineering (ENBM) at Society for Science & the Public

May 2016 - Present

Languages

Bengali

German

Education

University of California, Berkeley

Bachelor of Science (BS), Bioengineering and Material Science Engineering, 2011 - 2015

Activities and Societies: UCB Democratic Education Program - Stem Cells: Science and Society

Interests

Digital and Film Photography,

Lithography,

Neural Interface,

Literature,

Mixed Media Art,
Circuit Design and Construction,
3D Printing / Additive Manufacturing,
Medical Technology, Medical Devices,
Personalized Medicine,
Preventative Care,
IoT, M2M,
Technological Networking and Communications

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Contact Shilpika (Pi) on LinkedIn