Aaron James Chow

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Education

The University of Michigan, Ann Arbor, Michigan — **Sept 2015- May 2019**

- **B.S.E. Electrical Engineering**

Experience

Medical Manufacturing Research, **Dr. Albert Shih's Lab**, Ann Arbor Michigan — **Jan 2017 - Pres**

- Designed a data gathering device for permanent housing inside an orthotic device to monitor its function and use over time
- Currently designing a new method of manufacturing 3D objects using a robotic arm, solving many problems that arise with the use of current 3D printing solutions such as isotropic strength, and need for support materials

Michigan Neuroprosthetics, **Founder**, Ann Arbor Michigan — **Jan 2016 - Pres**

- Created a club dedicated to creating a line of advanced pediatric prosthetics that can be easily replaced as a child grows
- Personally, developed relationships with UMICH BME, EE, ME, C-SED, and Design lab, as well as outside partnerships with Autodesk, Intel, Johnson & Johnson, Cimquest, and Essentium Materials

Advanced Prostheses, Independent Research, Cincinnati Ohio, Ann Arbor Michigan — **Mar 2014 - Pres**

- Individually designed all systems for a low-cost myoelectric prosthetic arm.
- Fabricated prostheses in Autodesk Inventor on a 3D printer from personal research grant.
- Designed hardware layouts and programmed with Arduino and Processing languages

Additive Manufacturing, Tunable lattice structures independent research, Ann Arbor Michigan — **Nov 2013 - Pres**

- Designed Topology Optimized lattice structures for biomimetic 3D printed parts
- Chosen to present research at RAPID 2016, 2017, and 2018 Industry conference
- Special Presenter for Additive Technologies at SE 2017: Ukraine's largest IT conference

Autodesk Additive Marketing, San Francisco California — **June 2017 – Aug 2018**

- Designed an Additive Manufacturing workflow within Fusion 360 for use with the HP MJF line of printers
- Created functional wind up clock in a single printed object, with working springs, gears, and moving parts

In-Situ Martian Manufacturing Ann Arbor Michigan — **Jan 2018 – Dec 2018**

- Design of requirements and specifications for machines and materials to be used on Mars
- Worked closely with chemistry teams to identify materials feasible for soil extraction, as well as viable for additive processes
- Presented work to Northrop Grumman CTO board, as well as NASA headquarters in Washington D.C.

Johnson & Johnson 3D printing, Microstructures & topology optimization, Miami Florida — **June 2017 – Aug 2017**

- Helped to build state of the art powder metallurgy manufacturing and research center
- Operated a variety of metal characterization equipment including 3D systems DMP 320 Metal 3D printer, EOS m100 printer, and TEKNA 15kW Induction Plasma Spheroidization system

Aravind Eye Hospitals, 3D printing specialist, Madurai, India — **March 2017 – May 2017**

- Designed and built 3D printing lab at Aurolab manufacturing center in southern India
- Worked with both the University of Michigan Kellogg Eye Center and the Aravind Eye Hospitals to design a 3D printing workflow to increase productivity and decrease development times necessary for ophthalmic products.
- Trained 6 engineers the workflow and design constraints to properly leverage rapid prototyping technologies

Ethicon, Research and Development, Blue Ash Ohio — **May 2016 – Sept 2016**

- Designed and built data dump and automated analytics application for next generation laparoscopic surgical devices
- Worked with Johnson & Johnson Additive Manufacturing team for 3D-printing devices

GE Aviation, Contractor, Evendale, Ohio — **Jun 2014 - Aug 2014**

- Engineered a global telecoms system with 5 international teams
- Composed response manual and trained the emergency aviation response personnel

Skills

Patents: *Pending*: Modular Fingertip Sensor Design for upper limb prosthetics (14988611)
Structurally Optimized additively manufactured Body Armor (62573666)

Relevant Fields: Clean Room Silicon wafer fabrication, Electronic Circuits, Embedded Control Systems, Signals and Systems, Logic Design, Biomechanical design, Topology Optimization, Algorithmic Design

Languages: Matlab, C#, C++, Arduino, Processing, T-SQL, HTML, CSS, and Javascript

Software: Visual Studio code, Atmel Studio, Premier Pro, Fusion360, Autodesk Inventor, Autodesk Netfabb, Meshmixer, Materialize Mimics, nTopology Element Pro

Awards and Recognition

- University of Michigan 2018 Entrepreneurship Award Electrical Engineering
- Top 8 overall hack, HackGT 2017
- 1st place best travel hack, HackGT 2016