Tony Shu

5186 Wentworth Drive, Norcross, GA 30092

☐ (770) 597-1197 | ✉ tonkneeshu@gmail.com | ⌂ www.tonyshu.me | ⬡ tshu | in tonyshu

Education

Georgia Institute of Technology   *Atlanta, Georgia*

B.S. in Computer Science & B.S in Materials Science and Engineering   *Aug. 2012 - May 2017*
- 3.82/4.00
- Concentrations in Artificial Intelligence, Computational Theory, Structural & Functional Materials

Experience

AMBER Lab - Dr. Aaron Ames   *Atlanta, Georgia*

AMPRO3 Project Manager   *Aug. 2015 - Now*
- Manage a graduate team to implement novel nonlinear control algorithms on AMPRO3, a custom powered transfemoral prosthesis
- Design C++/ROS packages for transducer integration and trajectory generation

Intelligent Control Lab at Peking University - Dr. Qining Wang   *Beijing, China*

Research Assistant   *May 2015 - Jul. 2015*
- Implemented USART communication and DMA memory management protocols in C for angular velocity sensors used in transtibial prostheses, increasing control loop resolution by 17%

SpaceX   *Hawthorne, California*

Propulsion Intern   *May 2014 - Aug. 2014*
- Optimized direct metal laser sintering algorithms for use with Inconel and Titanium superalloy powders in combustion component production, resulting in decreased porosity and expanded geometric capabilities
- Developed a complete metal powder characterization lab for use in DMLS initiatives and alloy microstructure analysis, saving $150,000 per year in operation costs

Projects

FindED.io   *Atlanta, Georgia*

Co-Founder   *Jan. 2016*
- Built a webapp which finds the optimal emergency room for non-ambulance emergencies from a database of 4,931 hospitals
- Returns search results based on real time travel data from Google Maps API, hospital quality metrics, and published wait time statistics

ReCap: Zirconia Recycling Initiative   *Atlanta, Georgia*

Team Member   *Jan. 2016 - May 2016*
- Utilized materials testing methods to characterize swarf powder left over from the milling of zirconia dental crowns, resulting in a low-cost recycling solution for the reuse of 1.15 million pounds of zirconia annually
- Sponsored by 3M Corporation

Bandit: "Take What You Need"   *Atlanta, Georgia*

Project Manager   *Aug. 2015 - Dec. 2015*
- Developed a modular data collection band which allows for unique loadouts of sensors based on user needs
- Implemented a prototype with hot-swappable sensors in C

Publications & Awards

Under Review	**Robust Control of a Powered Transfemoral Prosthesis Device with Experimental Verification**, V. Azimi, T. Shu, H. Zhao, E. Ambrose, A. Ames, D. Simon	*American Controls Conference 2017*
1st Place	**FindED.io - A Patient Decision Tool for Determining the Optimal Emergency Room for Non-Ambulance Emergencies**, P. Tailor, T. Shu, F. Khan, D. Rivera, E. Lee	*IISE Paper Competition 2016*
1st Place	**ReCap: Zirconia Recycling Initiative**, T. Shu, H. Liu, A. Thomas, H. Zhang, N. Kane, J. Wang	*GT Capstone Expo 2016*
	Jack J. and Leda Zbar Scholarship, Georgia Tech MSE Research Scholarship, Zell Miller Scholarship, TE Stribling Textile Fund, Tau Beta Pi Engineering Honor Society	

Skills

Leadership   *Atlanta, Georgia*

Head TA MSE3021 Thermal Properties, TA MSE4022 Ceramics Fabrication, Resident Advisor, Yellow Jacket Archery Club President

Software

Java, C/C++, ROS, Python, MATLAB, SolidWorks, Machine Learning, Knowledge-based AI