

PETER TULLY GODART

www.petergodart.com | ptgodart@gmail.com

EDUCATION

- **Delbarton High School**, Morristown, NJ, Graduated June 2011 (GPA: 4.0/4.0)
- **MIT**, S.B. in Mechanical and Electrical Engineering, Graduated June 2015 (GPA: 4.9/5.0)

WORK / RESEARCH EXPERIENCE / PROJECTS

- **Governor's School (Summer 2010)**: Worked in a Rutgers lab to develop technique for sequestering atmospheric CO₂ using nanoparticles and enzymes that convert the greenhouse gas in bicarbonate.
- **Panasonic, Intern (Summer 2011)**: Led a team in the design of an engineering competition for NJ high school students. Created a Mars rover-themed challenge requiring participants to construct, from household items, a robot that could perform a number of Mars operation-related tasks. Built a solution to prove feasibility.
- **MIT Media Lab Lifelong Kindergarten Group, Research Assistant (Summer 2012)**: Designed/fabricated new circuit boards with Bluetooth wireless and I²C network capabilities for a self-documenting construction kit. Wrote software for project using computer vision and "simple machine" models to teach young students about mechanics.
- **Choir Director / Assistant Organist, All Saints Ashmont Church (Fall 2011 - Summer 2013)**: I played the organ at All Saints Ashmont Church in Dorchester, MA every Sunday. I conducted a choir part time there as well. Church services involved the learning of new, complicated music each week under my instruction.
- **MIT 2.00b, "Toy Lab"**: Worked on a team of 5 to design and prototype original toy, BeatBlocks, a set of cubes that emit music samples in response to simple hand gestures.
- **MIT 6.115 (2014)**: Extensive project work with 8051 microcontroller. 2-axis MRI, fluorescent light ballast, motor controller, phase-locked loops, music playback and amplification.
- **Two Bit Circus, Engineer (2014)**: Designed and built STEM-related carnival attractions, including several robotic musical instruments. Extensive rapid prototyping work in metal, wood, plastic, and electronic media.
- **MIT 2.013/2.014, CEO (Fall 2014 - Spring 2015)**: Capstone product development class funded by the US Marines and Lincoln Laboratories. I led a 10-person team to develop a tactical 3kW power generator that reduces the total volume of fuel necessary for a standard Marine mission. We succeeded in developing a novel system that reacts aluminum and water to produce hydrogen and run a fuel cell. The result was a 60% reduction in volume.
- **NASA JPL, Robotics Technologist (August 2015 - Present)**: I act as the arm analyst and arm system engineer for the Mars Science Laboratory Rover, manage several projects conducting research in the field of modular robotics software and novel power systems for a Europa lander, develop control software for upcoming Mars 2020 mission.

SKILLS

- **Programs / Programming Languages**: Assembly, C, C++, Python, Go, MATLAB, Shell, Solidworks, AutoCAD, Eagle, Arduino, Processing, Adobe Creative Suite, Pure Data, Max/MSP, Sibelius, Final Cut, Ableton Live
- **Abilities**: Real-time robotics control software, mechatronics/mechanical/circuit design, custom microcontrollers, PCB layout and milling, analog filter design, machine vision, rapid prototyping, music composition / performance
- Adept in manufacturing processes, with a specific interest in rapid prototyping. Significant experience with laser cutting, 3D printing, water jet cutting, welding, and most standard shop tools

AWARDS

- **First Place, Panasonic Creative Design Challenge (2010, 2009, and 2008)**: Challenge to complete complicated tasks with robots made from household items. First out of 60 teams. Received NJ gubernatorial proclamation.
- **Second Place, Panasonic Creative Design Challenge (2011)**: See above for challenge description.
- **MENC Top ranked high school jazz pianist in northeast region encompassing 12 states (2011)**
- **Emerson Fellowship (2011-2015)**: A grant to take jazz piano lessons at Berklee and New England Conservatory
- **Pi Tau Sigma, MIT (2013-2015)**: Must be in top 15% of class and have faculty recommendation.
- **MIT-Lincoln Laboratories Beaver Works Barbara P. James Memorial Award (2015)**: For excellence in project-based engineering.
- **MIT Louis Sudler Prize (2015)**: Top prize for excellence in the arts, won for music.

PUBLICATIONS

- S. Brooks, P. Godart, P. Backes, S. B. Chamberlain, R. Smith, and S. Karumanchi, "**An Untethered Mobile Limb for Modular In-Space Assembly**," IEEE Aerospace Conference, 2016.
- S. Brooks, P. Godart, B. Chamberlain-Simon, R. Smith, and P. Backes, "**Limboid Reconfigurable Robots for In-Space Assembly**," NASA Tech Briefs, Vol. 40 No. 6, June 2016.
- P. Godart, J. Gross, and R. Mukherjee, "**Generating Real-Time Robotics Control Software from SysML**," IEEE Aerospace Conference, 2017 (accepted, awaiting publication).
- R. Mukherjee, N. Abcouwer, J. Kim, R. McCormick, P. Bailey, and P. Godart, "**Techologies for Mars On-Orbit Robotic Sample Capture and Transfer Concept**," IEEE Aerospace Conference, 2017 (accepted, awaiting publication).