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Daniel Teal

Research interests: macroscopic atomically precise manufacturing.

Education

2015–2019 **University of Texas at Austin**.
Mechanical Engineering & Mathematics, 3.93/4.00.
nanopatterning, nanoenergy, materials science, dynamics, thermodynamics, chemistry, heat transfer, numerical analysis

2011–2015 **Liberal Arts and Science Academy High School**.

Experience

8/17–now **Fan Research Group**, *research assistant.*
Automating nanowire assembly. Implemented computer vision-based detection of nanowires at ≈ 400 Hz and custom FPGA-based programmable 4-channel arbitrary function generator for improved electric tweezers control.

6/17–8/17 **Cornell NanoScale Facility NSF REU**, *research intern.*
Created low power voltage rectifiers in the CNF fab. Performed mask design, photolithography, evaporation, graphene application, automated 200 MHz electrical tests, and UHF vibrometry.

11/16–5/17 **Zheng Research Group**, *research assistant.*
Reviewed plasmonic nanostructures.

9/15–now **UT Longhorn Maker Studios**, *student assistant.*
Trained students for and maintained laser cutters and 3D printers. Attained proficiency in most manufacturing equipment.

11/15–11/16 **UT Advanced Manufacturing Center**, *research assistant.*
Designed and fabricated head impact metrology equipment for future research. Mounted 30 psi baseball air cannon to steel frame and SLS nylon dummy head. Automated measurements and tested high-speed camera.

6/15–8/15 **UT Applied Research Laboratories**, *intern.*
Acoustically detected unmanned aerial vehicles. Used digital signal processing to estimate range of common Phantom 3 pro quadcopter from analysis of its ultrasonic altitude finder and propeller noise under laboratory conditions.

9/11–6/15 **FIRST Tech Challenge Robotics Team**, *design & build lead.*
Lead team to become 2014-2015 world competition finalists. Designed in CAD and fabricated most of unorthodox leafblower-based wooden structure.

6/11–8/15 **DIY 3D Printer Design & Construction**, *hobbyist.*
Self-taught mechatronics by evolving generations of FDM machines.

Honors & Affiliations

8/17–now **UT ME Undergraduate Advisory Board**, *member.*
9/15–now **UT IEEE Robotics & Automation Society**, *webmaster.*
3/16–5/17 **UT Longhorn Maker Studios Club**, *president.*
9/15–5/16 **512 Hyperloop**, *member.*
2015 **ASME**, *student member.*
2017 **IEEE**, *student member.*
2016 **Tau Beta Pi**, *engineering honor society member.*
2016 **Pi Tau Sigma**, *mechanical engineering honor society member.*
2015 **National Merit Finalist**, *recipient.*
2013 **National Honor Society**, *member.*

Skills

Tooling: Laser cutter, FDM 3D printer, cleanroom (var.), measurement (var.).
Domains: Mechanics, electronics, computation.
CAD: SolidWorks, Fusion 360.
Languages: Python; some C/C++, LabVIEW, Verilog, Java, HTML/CSS, TI-BASIC.
Software: Linux, Windows, Excel, MATLAB, Word, LaTeX.