Michael A. Bick

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Apple

Dear Apple hiring manager,

Your *Technology Investigation Product Design Internship* posting found on the Georgia Tech CareerBuzz website interests me. A background on extra-curricular competition teams has given me extensive experience in 3D CAD, design for manufacture, and rapid prototyping, which would allow me to make meaningful contributions on your product design team.

I taught myself to use CAD as a seventh grader on a high school FIRST robotics team. While the team had never used CAD before, I envisioned a role for myself to help design, manufacture, and iterate more efficiently and precisely using 3D CAD. Working with professional machine shops honed my ability to create unambiguous engineering drawings while the short, six-week build period taught me efficient design. In particular, I improved my ability to rapidly ideate and design for ease of manufacture. I became particularly adept in using Dassault Solidworks and both designing for and manufacturing with our in-house manual mill, manual lathe, and Haas CNC router. By my final year, at night I would design a prototype to solve a problem or test an idea, begin manufacturing on our CNC router at the next team meeting, and have a functioning concept by the meeting's conclusion.

My work at Georgia Tech has cemented my desire to work in a design and development role. I thrived in "ME2110: Creative Designs and Design", a design competition class where my team created three complete iterations of our mechanism that placed 7th out of 60. By focusing our efforts on a CAD model that exploited laser-cut plywood, we were able to adjust and upgrade quickly and easily. I genuinely love design, iteration, design for manufacture.

Attached you will find my resume; it contains further descriptions of my work on Georgia Tech's FSAE and robotics teams and my high school robotics team. I would be happy to answer further questions by email at `michael.bick@gatech.edu`.

Sincerely,

Michael Bick

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Education

Aug 2016 - Present

Mechanical Engineering | GPA 3.58/4.0
Georgia Institute of Technology, Atlanta, GA
Dean's List
2nd Year Junior, Expected Graduation June 2020

Academic Projects

Aug 2016-Present

GT Motorsports | Powertrain Team Member

Simulating engine dynamics with the eventual goal of increasing efficiency and low-end torque by lowering power-band. Designing and manufacturing improved camshaft to match optimal lift profile.

Aug 2016-Present

RoboJackets | Team Member

Lead design of a 3lb combat robot to compete in the Motorama event, including CAD, chassis analysis, and weapon optimization. Manufacturing robotic mechanism components using precision machinery including CNC mills and lathes.

Aug 2011-Jun 2016

MilkenKnights FRC Team | Team Captain

Managed the 6-week design and construction of a robot, including rapid prototyping, CAD, manufacturing, and control dynamics. Designed transmissions, gearboxes, chassis, and complex linkages in Solidworks. Implemented position PID, velocity PID, vision tracking, motion profiles, and path following. Trained students in CAD and operating precision machinery including a mill, lathe, and CNC router. Established sponsorship ties with local manufacturing businesses.

Sept 2014-Jun 2016

ASCE Bridge Building Team | Team Captain

Lead design, analysis, simulation, and construction of a three foot, one pound popsicle stick bridge that withstood over 950 pounds of force.

Sept 2014-Jun 2015

Conrad Spirit of Innovation | Programming/Electrical Lead

Designed, wired, and programmed LIDAR tracking system for a belt than warned the visually-impaired of threatening obstacles.

Jun 2012-Jun 2014

Edge Systems Design | Mechanical Engineer

Designed base frame and linear motion system for an affordable CNC router targeted at the hobby market. Helped manage funding and operation of a startup.

Technical Skills

Software:	Solidworks, Autodesk Inventor, Adobe Illustrator, Vim, Word, Excel
Languages:	MatLab, Java, Arduino, HTML, CSS, SASS, Android, Python, LaTeX
Machines:	Haas CNC, Manual Mill, Manual Lathe, Laser Cutter, Waterjet

Awards & Honors

Apr 2016	2nd/42	FIRST Robotics Orange County Regional
Mar 2015	3rd/41	FIRST Robotics Ventura Regional
Mar 2015	3rd/53	FIRST Robotics Utah Regional
Oct 2014	International	Conrad Spirit of Innovation Semi-Finalist
Mar 2013	1st/65	FIRST Robotics Los Angeles Regional