JUSTIN BIRMINGHAM

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Clinton, NJ 08809		Brooklyn, NY 11205

EDUCATION

Columbia University, The Fu Foundation School of Engineering and Applied Science
BS in Mechanical Engineering, Minor in Music   May 2015
Relevant Coursework:

3 Semesters of Advanced Physics	Green Buildings, Solar Thermal Engineering
Classical Control Systems	Fluid Mechanics, Thermodynamics, Heat Transfer
Engineering Graphics and Design	Engineering Statics and Dynamics, Solid Mechanics
Advanced Programming (C/C++/UNIX)	Mechanical Engineering Lab 1-3, Machine Design
Intro to Electrical Engineering	Calc I-IV, Diff Eq and Linear Algebra

TECHNICAL SKILLS

Applications:	Excel, vim, JIRA/Confluence, Pro-Engineer, HOBOware, AutoCAD, Slack
Programming Languages:	Python, C/C++, Bash, JS, git, Regex, Groovy, Java, HTML/CSS, learning SQL
Skills:	CNC Machining and Lathe, Laser Cutting, Stress Testing Metals, 3D Printing
Certifications:	Engineer-In-Training, OSHA 10-hour Construction Safety, CPR, Bartending

PROFESSIONAL EXPERIENCE AND EXTRACURRICULARS

Recurse Center – *Programmer in Python, Bash, JavaScript*   May 2016 to August 2016
- Attended numerous workshops, building an energy calculator app for solar vehicles, gave several talks

Ecorithm   September 2015 to April 2016
Building Data Analyst / Jr. Engineer
- Using and improving an Automated Fault Detection and Diagnostics software system for HVAC Data
- Writing Python/Bash scripts to visualize the software architecture, track usage and identify pain points
- Writing rules-based Groovy scripts for fault detection, reporting issues and managing multiple projects

Viridian Energy and Environmental (Vidaris Energy)   September 2013 to May 2015
Commissioning Intern
- Energy Auditing, Data Analysis and Reporting, Retro-Commissioning, M&V plans, LEED Projects
- Blower-Door Testing, Lighting/Occupancy/Thermal Data Logging and HVAC Systems analysis

Senior Design Group Project – Robotic Bass Guitar   October 2014 to May 2015
- Designing, building and automating an arduino-controlled musical instrument through several iterations
- Machining and laser cutting new parts, inventing unique design solutions, overseeing the musical side

Columbia Outdoor Orientation Program (COÖP)   September 2013 to September 2014
Biking Coordinator, Communications Coordinator
- Single-handedly planned a 150-mile bike camping trip through upstate NY for incoming freshmen
- Maintained a large budget, selected new leaders, and managed a community of 80 student leaders

NYC Department of Design and Construction (DDC)   Summer 2013
Summer College Intern, Public Buildings Division, Cultural Unit
- Streamlined the Change-Order process and met with the commissioner to propose my changes

Columbia EcoReps   Fall 2011 to Spring 2015
Give and Go Green Sale Coordinator and Composting Committee Member
- Managed and organized a group of about 20 students in the collection, storage, and marketing of leftover items after spring move-out, raising over $8000 for environmental projects around campus in Fall 2012

Earth Institute Center for Environmental Sustainability (EICES) – *Admin Assistant*   Spring 2013
Earth and Environmental Engineering Department, Columbia University – *Lab Assistant*   Fall 2012
Notes and Keys Acapella – *Vocalist/Business Manager*   Spring 2012 to Spring 2015
Bike & Build – Rode a bicycle from Connecticut to California for affordable housing   Summer 2015
GreenBorough House (Sustainable Living Community) - *Resident*   August 2012 to May 2014
Hobbies: Building and riding bikes and longboards, Hiking, Singing and playing music, Rock climbing