Bailey A. Tincher

606 E. White St., Champaign, IL 61820. Apt. # 202.
Email: *bailey.tincher@btin.io* | Phone: *(815) 530-7378*
btin.io

Education:

University of Illinois College of Engineering - 3.84 GPA / 101 Credit Hours — Urbana-Champaign, IL
- Pursuing a dual degree in *Computer Science* and *Engineering Physics* and minor in *Mathematics* — Aug. 2017 - May 2021
- James Scholar and Dean's List Honors

Courses:

Systems Programming, Web Programming, Data Structures, Computer Architecture, Probability & Statistics, CS Pedagogy Practicum, Computational Physics, Quantum Physics, Thermal Physics, Classical Mechanics, Electricity and Magnetism, Relativity, Honors Fundamental Mathematics, Honors Vector Calculus, Differential Equations, Linear Algebra, Discrete Structures

Experience:

University of Illinois - Department of Computer Science — Urbana-Champaign, IL
CS 125 Course Developer - Part Time — Aug. 2018 - Present
CS 125 Course Assistant - Volunteer — Jan. 2018 - Aug. 2018
- Collaborating with fellow developers researching and designing course infrastructure on the bleeding edge of education technology in the closest environment to a startup on campus
- Analyzing course datasets of close to 1000 students per semester seeking new opportunities to enable first semester computer science majors to jumpstart their academic career
- Identified and led a project to expand office hours to student residence halls resulting in increased carrying capacity and the elimination of queue meltdown

Illinois Tool Works (ITW) - Fortune 200 Company — Beecher, IL
Process Engineering Intern - Full Time — May 2018 - Aug. 2018
Design Engineering Intern in the Welding Segment - Full Time — May 2017 - Jan. 2018
- Applied the ITW toolbox, agile project management, lean manufacturing, and 80/20 core principles to improve business processes
- Co-led a 2 month project with the VP/GM on a highly collaborative effort to overhaul and optimize the layout of a 100,000 sqft. manufacturing floor
- Self-started a comprehensive data analysis project with the shipping team and VP/GM that applied Python data science libraries to visualize the efficiency of the business unit's finished goods layout consisting of 500,000 picks/yr across 185 bin locations
- Constructed a Microsoft Sharepoint site to automate interdepartmental engineering workflows leading to over 100hrs of annualized upper-management time savings
- Supported the lead design engineer by conducting extensive research on a cutting-edge welding gun innovation that is now the key patented feature of Miller Electric's next generation commercial MIG gun product line

Activities:

Association of Data Science and Analytics (ADSA) — Urbana-Champaign, IL
Advanced Workshops Committee Member — April 2018 - Present
Team Projects Contributor — Aug. 2017 - Present
- Designing and teaching the largest data science and machine learning workshops on campus reaching upwards of 100 students every weekend
- Participated in semester long team projects with the goal of developing our understanding of advanced Python features such as modules, lambda functions, and ORM SQL storage

Boy Scouts of America — New Lenox, IL
Eagle Scout — Aug. 2005 - June 2017
Senior Patrol Leader — Aug. 2015 - June 2017
- Proposed, developed, and organized an unprecedented electronics sustainability event leading a team of fellow scouts, school administrators, and business leaders to collect and repurpose over 500lbs of electronic waste from my community
- Initiated a partnership with Morning Star Mission to collect and repurpose cell phones as emergency call devices for poverous women and children

Projects:

Quantum Computing Simulator (*Python*) — Jan. 2018 - Present
Researching and designing the framework necessary to simulate Shor's prime factoring algorithm among others. In tandem with this project I seek to found the first QIS student organization on campus with the goal of expanding into larger projects with real-world frameworks such as QisKit, Q#, and others

N-Slit Diffraction Physics Education Simulation (*React.js, P5.js*) - btin.io/#/nslit — Aug. 2018 - Dec. 2018
Developed a web app for the University of Illinois Department of Physics that will serve as an educational tool to demonstrate the quantum physical phenomenon of diffraction

Amazon Alexa News Web Scraper (*Python, Flask, SQLAlchemy, AWS*) — Jan. 2018 - May 2018
Collaborated with fellow ADSA projects members to deploy an Amazon Alexa Skill and Python package that web scrapes top news sources such as CNN and The Guardian for daily headlines and reads back tailored selections to the user

Software:

Python (Advanced), MS Office/Sharepoint Designer (Advanced), SolidWorks (Advanced), Linux (Intermediate), Java (Intermediate), C/C++ (Intermediate), MongoDB (Intermediate), P5.js (Basic), React.js (Basic), Flask Microframework (Basic), AWS [Alexa, Lambda, RDS, EB] (Basic)