

## WORK EXPERIENCE

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### Tesla

**Palo Alto, CA**

*Software Engineering Intern, Service Engineering Team*

August 2019 – December 2019

*Software Engineering Intern, Infotainment Automation Team*

May 2017 – August 2017

- Recruited for automation role during High School after publishing a popular open-source UI automation project on Github
- Worked with the Firmware team to develop automation infrastructure for the Tesla Model X, Model S, and Model 3 Infotainment System
- Worked alongside a team of interns to create a web tool that analyzed cost differences between gas and electric powered vehicles
- Technology Used: Python, Ruby, C++, Git, Jira, Jenkins

### Capital One

**McLean, VA**

*Software Engineering Intern, Risk / Anti-Money Laundering*

June 2019 – August 2019

- Developed a tool for validating potentially suspicious transaction data in real-time to aid in the immediate identification of fraudulent account activity
- Developed a method to dynamically assign account information to a credit card without encoding the magnetic stripe, a solution that would allow for immediate card number reassignment in the event of a data breach
- Technology Used: Python, Flask, Amazon Web Services (Lambda, EC2, etc.)

### NCR Corporation

**Atlanta, GA**

*Software Engineering Intern, Software Innovation Lab*

January 2019 – May 2019

- Created the backend software for a facial-recognition locker system that was presented to executive level leadership at NCR and numerous outside organizations that utilized NCR products
- Chosen as the spring 2019 “Talented Intern” and was given the opportunity to speak at a company all-hands meeting
- Technology Used: Python, NodeJS, YOLOv3, Flask, Google Cloud Platform

### Lending Club

**San Francisco, CA**

*Software Engineering Intern, Internal Tools and Infrastructure*

June 2018 – August 2018

- Used Docker to standardize Python application deployment, enabling employees to develop microservices using frameworks like Flask and Django.
- Worked with Python’s Flask framework to develop a single notification gateway that enabled cross-platform communication across Slack, Atlassian tools, and numerous internal applications.
- Technology Used: Python, Docker, Flask, Django, HaProxy, Gunicorn

## EDUCATION

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### Clemson University - Calhoun Honors College

**Clemson, SC**

*Bachelors of Science; Computer Science*

August 2018 - Present

- **Expected Graduation in 2021**
- **GPA: 3.66**

## HACKATHONS

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**Participant:** VandyHacks 2017 (*Vanderbilt University*), BigRedHacks (*Cornell University*), HackNC (*UNC - Chapel Hill*), HackGT (*Georgia Tech*), Disrupt the District (*Washington, DC*), ColaHacks (*USC*), Capital One Summit Hackathon (*Washington, DC*), HackGSU 2018 (*Georgia State University*), Google Tech Challenge (*Google - Atlanta, GA*), Uncommon Hacks (*University of Chicago*), MedHacks (*The Johns Hopkins University*), TOM:Vanderbilt (*Vanderbilt University*), T-Mobile AI Hackathon (*Georgia Tech*), AuburnHacks (*Auburn University*), UGAHacks (*University of Georgia*), HackGSU 2019 (*Georgia State University*), HackTech (*California Institute of Technology*), HackPrinceton (*Princeton University*), VandyHacks 2018 (*Vanderbilt University*)

**Organizer/Mentor:** CUhackit (*Clemson University*), HelloWorld (*Clemson University*), HackGT (*Georgia Institute of Technology*)

## PERSONAL PROJECTS

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### VIX Algorithmic Trading Strategy

**New York, NY**

- Trading strategy based on the relationship between the CBOE Volatility Index and network latency to Equinix NY4 - a data center commonly used by financial firms specializing in high-frequency trading
- Received private funding to purchase server space near Equinix NY4 to test the strategy with reduced geographical latency
- Collected millions of data points over an extended period of time to backtest a strategy in which \$VIX is purchased during extended periods of anomalous network latency in the data center

## AWARDS / HONORS

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- **Best Mobile Hack at HackTech** | Presented by the California Institute of Technology (Caltech) in March 2019
- **Best IoT Device at HackTech** | Presented by the California Institute of Technology (Caltech) in March 2019
- **Best Hack that Acts on the Physical World** | Presented by Uber's Advanced Technology Group in March 2019
- **Best IoT Device at HackGSU** | Presented by Georgia State University in March 2019
- **Best Community Focused Hack** | Presented by State Farm in March 2019
- **Best use of SnapKit SDK at UGAHacks** | Presented by Snapchat in February 2019
- **Best use of Google Cloud Platform at AuburnHacks** | Presented by Google in February 2019
- **Best use of EventBrite at VandyHacks** | Presented by Vanderbilt University in November 2018
- **1st Place at HackGT** | Presented by NCR Corporation at Georgia Tech in October 2018
- **Best Voice Hack at HackGT** | Presented by Citi Bank in October 2018
- **Finalist at MedHacks** | Finalist at The Johns Hopkins University medical hackathon in September 2018
- **1st Place at ColaHacks** | Presented by The University of South Carolina in April 2018
- **Best Voice Hack at ColaHacks** | Presented by The University of South Carolina in April 2018
- **Finalist at HackGT** | Finalist at Georgia Tech's hackathon in October 2017
- **Best IoT Device at VandyHacks** | Presented by Vanderbilt University in October 2017

## PATENTS

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### **Apparatus, Method and Article for Prevention of Proximity-Based Device Authentication within a Defined Radius**

US Patent Application Number: 62815758 | Provisional Patent Granted by the USPTO in March 2019

## PERSONAL PROJECTS (CONT.)

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**The WallStreetBets Index** | *Algorithmic trading strategy based on comments from a popular trading forum* **Python**  
<https://github.com/theriley106/TheWSBIndex> July 2018 – March 2019

- Created a full-fledged Algorithmic trading strategy that included backtesting, broker integration, reliability testing, and projected returns
- Ran analysis on dozens of data points including comment sentiment, upvote count, and author reliability to find reliable indicators of future market price of a security
- Created a language processing model to extract the indicated position towards a specific security in a Reddit comment

**OutCaptcha** | *Chrome extension that solves reCAPTCHA 2.0 without human interaction* **Javascript/Python**  
<https://github.com/theriley106/outCaptcha> June 2018 - July 2018

- Transcribes the audio response from reCAPTCHA's accessibility feature for visually impaired users
- Solves reCAPTCHA 2.0 with a 98%+ success rate | Project has 100+ stars on Github with ~800 weekly views
- Technology used: Javascript, Python, Flask, GCP

**No-Name Bot** | *Open-source bot to purchase limited release sneakers* **Python**  
<https://github.com/theriley106/SneakerBotTutorials> March 2017 - June 2018

- 300+ Stars on Github with ~1,500 weekly views
- The project was created for a YouTube tutorial series that has accumulated 200,000+ views
- Technology used: Selenium, PhantomJS, BS4, Docker

**Headspace Bandwidth Reducer** | *Restructuring audio to reduce server-side bandwidth costs by more than 50%* **Python**  
<https://github.com/theriley106/Headspace-Bandwidth-Reducer> March 2018 - April 2018

- Created an alternate way of structuring audio files from a popular guided meditation app to significantly decrease bandwidth costs with no loss of audio quality
- This personal project gained the interest of several engineers at Headspace, and my web application was voluntarily taken offline in May 2018 with respect to an ongoing dialogue with the company
- Technology used: Flask, FFMPEG, Javascript

**Echo Linguistics** | *Bringing Third-Party Voice and Language Support to the Amazon Echo* **Python/Javascript**  
<https://github.com/theriley106/EchoLinguistics> February 2018 - April 2018

- First open-source project to successfully enable third-party voice support on Amazon Echo devices
- Enables ~60 additional voices and ~70 additional languages on the Amazon Echo
- Technology used: Python, AWS Lambda, AWS S3, FFMPEG

**Amazon Textbook Arbitrage** | *Finding Arbitrage Opportunities in the Amazon Textbook Marketplace* **Python**  
[https://github.com/theriley106/Senior\\_Project](https://github.com/theriley106/Senior_Project) August 2016 – May 2018

- Analyzed millions of textbooks to find pricing discrepancies between trade-in price and market value
- Found thousands of profitable transaction scenarios based on these pricing discrepancies
- Technology used: Flask, BS4, Amazon Product API