Eric Stein

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Technical Skills and Certifications

- *Full Stack Software Development* – React Native, JavaScript, Java, Python, Swift, Lua, C, C++, node.js, Flask, Express, Firebase, Heroku, Amazon Web Services, Microsoft Azure, React, Google Cloud Platform, JetBrains IDEs, MySQL, Git, REST APIs, Websockets
- *Data Science* – TensorFlow, Jupyter, Python, Matlab, Mathematica, Microsoft Excel, Anaconda
- *Game Development* – Unity, Unreal Engine, Roblox Studio
- *Miscellaneous* – Autodesk AutoCAD (certified user), Autodesk Revit (certified user), Adobe Photoshop, Adobe Premiere, Final Cut Pro X

Education

University of Virginia | Engineering School, Charlottesville, VA
- *Major* – Computer Science (B.S.)
- *Intended Minor* – Technology Entrepreneurship
- *Expected Graduation* – May 2022
- *Current Cumulative Major GPA* – 3.85
- *Current Cumulative GPA* – 3.791 (Dean's List)
- *Relevant Coursework* – Data Structures and Algorithms (DSA), Computer Organization and Architecture (COA), Software Development Essentials, DSA 2, COA 2, Discrete Mathematics, Theory of Computation, Operating Systems, HCI in Software Development
- *Extracurriculars* – International Collegiate Programming Contest (ICPC) Club, Enactus Consulting (assisting Lytos Technologies, a local start-up), Trigon Engineering Society (serving as secretary, participating in volunteering events), Software Engineering Research Assistant

Staten Island Technical High School, Staten Island, NY – 2015-2019
- *Final GPA* – 4.0 (Advanced Regents Diploma)
- *Extracurriculars* – Science and Engineering Research Program (2015-2019), Hackathon (2019), Robotics Team (2015), Entrepreneurship in Gaming Club President (2019), Swim Team (2015-2018), Math Team (2015-2017)
- *Volunteer Service* – FIRST Lego League Competition Referee, Staten Island Children's Museum Volunteer, American Institute of Architecture Marshmallow Building Challenge Volunteer

Work Experience

- *Software Engineer / Research Assistant* – *2019-Present*
  - UVA Landmark Recognition – training and deploying a computer vision model that recognizes various UVA landmarks, such as the Rotunda, via crowdsourcing
    - Contributed by developing and publishing a cross-platform iOS & Android mobile app with two modes: (1) collect and label images for use in training and (2) receive our pre-trained model's predictions about a given photograph (*React Native & Firebase*). The code for this app is now open-source on GitHub.
  - SoundScope – an online learning environment with three main purposes: (1) allow users to create music using block programming, (2) allow users to visualize the amplitudes and frequencies of musical notes, and (3) collect usage data for use in training artificial intelligence to offer music synthesis suggestions
    - Contributed by developing each of the three features on top of an existing project and deploying the project (*AWS, Firebase, & HTML/CSS/JS*)
- Full Stack Engineer
  - collegeunfiltered.com – a website where University of Virginia students and alumni can anonymously answer various questions about attending school at UVA
    - Contributed by coding the full functionality of the website, including authentication and response-saving, and assisting in design and styling (*React & Firebase*)
- *Freelance App & Game Development* – 2015-Present
  - Day Trippin' – A social media app in which users can share about trips through certain points of interest (*React Native & Firebase*); sourced through Upwork.com
  - Multiplayer minigame in which players avoid a spinning object until one player remains (*Lua*); sourced through Roblox.com
  - Multiplayer minigame in which players avoid falling through a collapsing floor until one player remains (*Lua*); sourced through Roblox.com
- *Miscellaneous* – 2014-Present
  - Fortnite Stat Provider – Amazon Alexa App that provides users with gaming-related statistics by communicating with APIs (*JavaScript*); available on the Amazon Alexa marketplace
  - Twitter Bot that corrects grammar in others' tweets (*JavaScript*)
  - Online role-playing game in which players work together to run a hotel by assuming various hotel job positions (*Lua + Roblox Studio*); available on Roblox.com
  - Multiplayer free-for-all game in which players must extract loot from a competitive arena; involved writing a custom inventory system and a dual-wielding combat system and optimizing for Xbox One, iOS/Android, and PC/Mac (*Lua + Roblox Studio*); available on Roblox.com
  - Discord chat-bot that randomly mimics users in a text channel (*JavaScript*)

Research Experience

- *Deep Learning* – Trained an acoustic AI model to differentiate between aggressive and non-aggressive tones (95% accuracy) and bullying and non-bullying statements (63% accuracy) using voice recordings from student volunteers, *TensorFlow* (for training a 2D CNN), and *Jupyter*; developed a *Flask* server to host an *API* that returns these algorithms' predictions when given an audio file (at Pace University, 2018-2019)
- *Social Science* – Surveyed secondary and post-secondary students about their perceptions of employability in various industries as automation increases; found that 68% of participants were optimistic about employability in the near future, that an increase in technology classes was the most preferred educational reform, and that the establishment of a temporary financial assistance period for those who lose jobs was the most preferred economic reform (at Pace University, 2017-2018)
- *Software Design* – Determined that interactive loading screens produce high tolerable waiting times by programming websites in *JavaScript/HTML/CSS* to calculate the time it takes for a user to hit refresh as the websites load; experimented with secondary school end-users and developed a Google Chrome extension that renders an interactive loading screen over any website (at Staten Island Technical High School, 2016-2017)

Awards & Achievements

- *New York City Science and Engineering Fair (NYCSEF) Finalist, Contestant* – 2019, 2018
  - For the projects titled, "Detection of Verbal Bullying Using an Acoustic Classifier Algorithm," and, "Perceived Educational Changes Needed to Address the Impact of Machines on Occupations," respectively
- *National Mu Alpha Theta Mathematics Award* – 2019
- *New York City Hack-League Finalist* – 2019
  - Built an app that leverages NYC's 311 API to populate a map with nearby and recent reports (*React Native*)
- *Quality of Life Innovations (WiSE Regional Program) Semifinalist* – 2017
  - For the project titled, "Effects of Different Loading Screens on Tolerable Waiting Time"
- *Staten Island Borough President's Office's Certificate of Appreciation / Borough Leader Award* - 2017
- *New York State Attorney General's 2015 Triple C Award* (For Being Valedictorian of George L. Egbert Intermediate School) – 2015
- *Urban Advantage Science Expo Presenter* – 2013
- *National Honors Society* – 2018-2019
- *Junior National Honors Society* (Arista) – 2012-2015
- *Celebrating Art High Merit Award* – Intermediate School
- *AP Scholar with Honor and Distinction Awards* – 2015-2019
- *Silver Medal in Computer Science* and *Bronze Medal in Electrical Engineering* from Staten Island Technical High School