Scott Geng

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EDUCATION

Columbia University   Expected May 2023
B.A. Computer Science and Biology   *New York, NY*
- GPA: 4.1/4.0
- Relevant Coursework: Advanced Programming, Making and Breaking Codes, Data Structures, Statistics
- Selected as a Rabi Scholar, a distinction given annually to the top ∼10 incoming freshman STEM majors

EXPERIENCE

Columbia University Medical Center   March 2020 – Present
Student Researcher   *New York, NY*
- Conduct novel research as the lead contributor on a bioinformatics project centered around the data from cerebellar electroencephalograms of patients with neurological diseases such as Parkinson's Disease and Ataxia
- Analyze patient data by comparing brain waves of diseased patients against healthy individuals using Python-based machine learning and Fourier methods, leading directly to significant publishable results
- Develop Python scripts to automate analysis pipeline, resulting in increased data throughput
- Draft a manuscript detailing results of research for submission to a peer-reviewed scientific journal
- Present project progress using self-designed figures to an interdisciplinary team at weekly lab-wide meetings
- Communicate work to the wider scientific community at Columbia's annual undergraduate research conference

National Institutes of Health   June 2018 – Aug. 2018
Summer Research Intern   *Bethesda, MD*
- Developed gradient-boosting and random forest machine learning models to predict N-glycan occupancy within any protein, a phenomenon critical in understanding important structures such as the surface spikes of HIV
- Scraped data from previously published research using Perl scripts to automate dataset generation

LEADERSHIP & ACTIVITIES

Columbia Bach Society   Feb. 2020 – Present
Webmaster and Board Member   *New York, NY*
- Organized and executed social bonding events such as parties and club dinners to improve intraclub relationships
- Designed club website to better align it with the board's vision, improving our communication with the wider community (columbiabachsociety.weebly.com)

National Institutes of Health   Sept. 2019 – Dec. 2019
Teaching Assistant   *New York, NY*
- Held weekly office hours to help other students in a ∼500 student class with lecture concepts and homework

PROJECTS

Innovo | *Python, Flask, SQL, Bootstrap, HTML/CSS*   Sept. 2020 – Present
- Developed a proof-of-concept full-stack web application using Flask, Bootstrap, and SQLite3 that addresses inequitable access and big data discrimination within healthcare by connecting doctors directly with patients
- Implemented database encryption and PBKDF2:SHA256 password hashing to ensure user medical privacy

nand2tetris | *HDL, Python*   July 2020 – Present
- Designed a Turing complete CPU in a hardware description language using NAND and D-flip-flop logic gates
- Developed an assembler in Python to convert user-written low-level instructions to CPU-readable bytecode

... and others on **Github**

SKILLS & INTERESTS

Languages: Python, Java, Perl, C, Scala, HTML/CSS, SQL, R, LaTeX
Libraries: NumPy, SciPy, pandas, Matplotlib, seaborn, scikit-learn, H2O
Developer Tools: Git, Vim, Shell, VS Code, JupyterLab, IntelliJ

Interests: Hiking, classical music, guitar, Counter-Strike, track & field