Tamjeed Azad

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Education

- **Columbia University, B.S. (Anticipated)** — New York, NY
  Major in Computer Science, Minor in Economics. — *August 2018 - May 2022*
  - Cumulative GPA: 3.97/4.00. Dean's List All Eligible Semesters. CP Davis Scholar, CU Scholars Program.
  - Selected CS Coursework: Machine Learning, Natural Language Processing, Artificial Intelligence, Computational Linear Algebra, CS Theory, Intro to Prob & Stats, Advanced Programming in C/C++, Fundamentals of Computer Systems, Data Structures and Algorithms in Java, Discrete Mathematics.

Technical Skills

- **Proficient:** Python, Java, C/C++, HTML/CSS, JavaScript | **Some Experience:** R, Ruby, Mathematica
  Libraries & Frameworks: Keras/TensorFlow, Express.js/Node.js | **Tools:** Bash, Unix, GIT, npm

Experience

- **Research Assistant, Azizi Lab** — Columbia University
  Currently use **Python** and ML methods to analyze tissue and genomic data. — *February 2020 - Present*
  - Wrapping up a project analyzing immune cell lineage vs differential gene expression in Growth v Host Disorder patients' tissues. Used methods such as phenograph clustering and tSNE.
  - Beginning a project applying 3D U-Net segmentation methods to tissue imagery.
- **Summer Research Intern, Qin Lab** — University of Tennessee at Chattanooga
  Paid Internship through iCompBio REU 2020, an NSF-funded program. — *May 2020 - July 2020*
  - Designed deep learning based COVID-19 prediction models using **Python**.
  - Created several LSTM-based neural net models using TensorFlow for predicting weekly new COVID-19 positive cases in New York, Texas, California, and Florida. Code on personal GitHub page.
  - Analyzed effectiveness of using historical flu data and temperature data for prediction.
- **Teaching Assistant** — Columbia University
  Lab Assistant for ELEN 1201: Introduction to Electrical Engineering. — *September 2020 - Present*
  - Grade lab reports and hold virtual lab office hours for 6 hours a week to guide students through lab assignments.
- **Research Assistant, Synthetic Biological Systems Lab** — Columbia University
  Assistant in research on engineering bacterial biosensors for cancer tumor detection. — *October 2018 - August 2019*
  - Completed paid summer internship in the lab through CU's Summer Undergraduate Research Fellowship in 2019.
  - Engineered bacteria that selectively grew and fluoresced in a low pH environment. Developed synthetic bio wet lab skills such as PCR, gel electrophoresis, and cell culturing. Work incorporated into coauthored paper.

Personal Projects (all code available on GitHub)

- **nasapic** (*2020 Spring*) Express.js app that uses Pug.js to render static content and serves NASA's Astronomy Picture of the Day using NASA's APOD API. Deployed at https://tamjazad-nasapic.glitch.me.
- **PenaltyKicks** (*2019 Summer*) Command Line Interface based game completely written in Java. It simulates a penalty kick shootout common in world football/soccer tournaments. Standard single player v. computer.

Leadership & Involvement

- **Media Chair, Club Zamana** — Columbia University
  Largest South Asian cultural club on campus; responsible for all club media. — *2019-2020* School Year
  - Was Organizational Committee Member on E-Board during 2018-2019 School Year.
- **Organizational Committee Member, Columbia Science Review E-Board** — Columbia University
  Club that spreads science literacy and publishes a science-focused magazine. — *2019* Spring Semester
- **Other Extracurriculars:** Indoor & Outdoor Intramural Soccer Participant, Past NY Road Runners Member.