Tamjeed Azad

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Education

- **Columbia University, B.S. (Anticipated)** — New York, NY
  Major in Computer Science. *August 2018 - May 2022*
  - Cumulative GPA: 4.007/4.00. Tau Beta Pi Honor Society Member since November 2020. Dean's List All Eligible Semesters. CP Davis Scholar, Columbia University Scholars Program (CUSP).
  - Selected Coursework:
    Completed: Machine Learning, Artificial Intelligence, Computational Aspects of Robotics, Natural Language Processing, Intro to Networks and Crowds, Analysis of Algorithms I, Programming Languages & Translators, Economic Growth and Development I.

Work Experience

- **Software Development Engineer Intern** — Amazon
  Summer intern in the Consumer Organization. *June 2021 - August 2021*
  - Incoming intern on the Items and Offers Platform team.

- **Research Assistant, Azizi Lab** — Columbia University
  Use unsupervised learning methods to analyze and interpret genomic data. *February 2020 - Present*
  - Currently working on a project analyzing immune cell dynamics in lymphoblastic leukemias. Previously worked on a project analyzing immune cell lineage vs differential gene expression in Growth v Host Disorder patients' tissues.
  - Developed extensive end to end data processing pipelines using Python for both projects.

- **Summer Research Intern, Qin Lab** — University of Tennessee at Chattanooga
  Paid Internship through iCompBio REU 2020, an NSF-funded program. *May 2020 - July 2020*
  - Created several LSTM-based neural net models using TensorFlow for predicting weekly new COVID-19 positive cases in New York, Texas, California, and Florida. Source code accessible on personal GitHub profile.
  - Analyzed effectiveness of using historical flu data and temperature data for prediction.
  - Presented work at 12th Annual NIMBioS Undergraduate Research Conference in Fall 2020.

- **Teaching Assistant** — Columbia University
  TA in the CS and EE departments of Columbia. *Fall 2020, Spring 2021*
  - (*Spring 2021*) Course Assistant for CSEE 3827: Fundamentals of Computer Systems. Responsibilities include guiding students through course concepts & assignments in office hours and course forums (piazza), and assignment grading & proctoring.
  - (*Fall 2020, Spring 2021*) Lab Assistant for ELEN 1201: Intro to Electrical Engineering. Working with a team of undergraduate lab assistants, grade lab reports and hold virtual lab office hours each 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*
  - 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.
  - Completed paid summer internship in the lab through Columbia's Summer Undergraduate Research Fellowship (SURF) in 2019. Also received 2019 CUSP Summer Enhancement Fellowship for financial support.
  - Presented summer work at the 2020 SURF Symposium. Work incorporated into coauthored in review manuscript.

- **Research Assistant, Klug Lab** — University of Tennessee at Chattanooga
  Evolutionary ecology research using computational approaches in high school. *November 2016 - August 2018*
  - Computationally analyzed and helped develop mathematical models that model the evolution of parental care in nature. Specific project focused on the link between life history traits, mating dynamics, and care's evolution.
  - Work incorporated into first-authored in review manuscript.

Publications

- (2021) "Life history, mating dynamics, and the origin of parental care." Azad et al., in review manuscript.
- (2019) "Multiplexed biosensors for precision bacteria tropism *in vivo*." Chien et al., in review manuscript.

Projects

- **PolyWiz** (*2021 Spring*) Programming language designed for a 5-person team project as a core component of Programming Languages and Translators class. Language uses C-like syntax and has extensive native support for polynomial computing and plotting. Translator architecture written using OCaml and C. Source code and project report accessible on GitHub profile.

Technical Skills

- **Languages:** Python, Java, C/C++, OCaml, HTML/CSS, JavaScript
- **Tools:** Google Cloud Platform, Bash, GIT

Extracurriculars

- **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.