Adiba Ejaz

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EDUCATION

Columbia University, New York, NY May 2023

B.A. in Computer Science and Mathematics (GPA: 4.0. Dean's List. Concentration: Philosophy)

Relevant coursework: Advanced Programming (*Unix, C).* Algorithms. Computer Systems. Data Structures (*Java*). Computer Science Theory. Abstract Algebra. Real Analysis. Discrete Math. Readings in algorithmic game theory (*seminar lead);* simple random walks (Dr. Xuan Wu, University of Chicago); Markov chains (Sayan Das, Columbia).

SKILLS

- **Programming languages:** Proficient in Java, Python, C, JavaScript. Experienced in HTML/CSS.
- **Technologies:** Proficient in Git, Unix, ServiceNow. Experienced in MongoDB, Express, React, Node, Flask.

PROFESSIONAL EXPERIENCE

Software Engineer Intern, ServiceNow. Santa Clara, CA May – August 2021

With the cloud automation team under the Software within Systems division.

- Rendered hardware evacuation metrics accessible and reportable with 3x the previous efficiency by implementing server-side class using JavaScript Glide API to consolidate and centralize sub-operation data
- Enabled visualization of evacuations' progress by architecting interactive, multi-feature dashboard in Now Platform
- Landed top 10 in intern hackathon for SprintNow, a full-stack Agile sprint planning application built in team of four using ServiceNow, Python Flask, Scikit-Learn, and Natural Language Toolkit

Research Assistant, The Billinge Group, Columbia University. New York, NY May 2020 – Present

- Automated and optimized analysis, correction, and projection of grant expenditure by developing *matplotlib* tool
- Improved usability of group database management software, Regolith, by re-architecting incumbent command-line application into MERN stack web application in team of three
- Expanded database querying features in Regolith by authoring and maintaining multiple *Python* scripts using TDD
- Boosted robustness of group-wide unit testing by introducing *pytest* unit-testing feature for invalid input behavior
- Continued research under Professor Simon Billinge on algorithm to extract homologies of high-dimensional datasets

Honors Math Teaching Assistant, Columbia University. New York, NY January – May 2021

- Systematically reviewed material in proof-based linear algebra and multivariable calculus during weekly office hours
- Graded problem sets with comprehensive feedback for ~45 undergraduates

PROJECTS

Mutually avoiding paths problem. *Algorithms* with Professor Christos Papadimitriou.

Designed and implemented polynomial-time approximation algorithm using randomization for NP-complete problem of finding k vertex-disjoint paths between k source-sink pairs in a graph. 98% effective on adversarial inputs for $k = 10$.

HTTP web server. *Advanced Programming* with Professor Jae Woo Lee.

Developed HTTP web server from scratch using Sockets API in C to serve static HTML and image files and dynamically search a database.

LEADERSHIP AND ACTIVITIES

Team Liaison, *Columbia Debate Society.* Cornell finalist. Top 5 debater at CUNY, American University. WSDC UAE team.
Technology Director, *Columbia Superposition*. Delivering CS pedagogy for gender minorities in computer science.
Back-End Developer, *Columbia Data Product Initiative.* Developed Flask back-end for music transcription application.