Tajveer Singh Dhesi

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Education and Honors

Colgate University, Hamilton, NY — May 2025
Bachelor of Arts

- Double Major: Computer Science and Mathematics
- Alumni Memorial Scholar - Access to $10,000 in funding for independent academic research. Awarded to ~1% of applicants in class year, based on academic merit and student involvement.
- Relevant Coursework: Linear Algebra, Number Theory and Abstract Algebra, Real Analysis, Data Structures and Algorithms, Discrete Structures, Computer Systems, Differential Equations, Probability, Data Analysis, Data Mining and Knowledge Discovery*, Modern Artificial Intelligence* (* denotes in progress).

Durham Johnston Sixth Form, Durham, UK — September 2019 - August 2021

- Completed A-levels in: Computer Science, Mathematics, Further Mathematics and Physics.
- Chosen to be Head Boy by head teacher, deputy head teacher, head of sixth form and deputy head of sixth form to be student voice and study body representative in meetings and making of key decisions.

Technical Projects

Random Maze Generation Game (VB.NET) — September 2020 - March 2021
A-Level Computer Science Coursework, Durham Johnston Sixth Form

- Used VB.NET forms to create a functioning maze generation game that leveraged a recursive backtracking algorithm to generate 60 levels of varying difficulty and further functionality for new maze to be generated immediately.
- Implemented leaderboard and scorekeeping functionality for enhanced user experience.

Random Maze Generation Game (JavaFX) — November 2023
Dandyhacks Hackathon, University of Rochester

- Used JavaFX to create an improved maze generation game that leveraged Kruskal's Algorithm to generate maze.
- Collaborated in a team of three to create team name, logo, presentation and working program that went on to achieve second place in the hackathon (https://github.com/tsinghdhesi/Hackathon_Dandy).

Experiences

Research Assistant — May 2023 - September 2023
Department of Computer Science, Colgate University

- Generated runtime and accuracy data for an AI model that predicts RNA base sequences from tertiary structure PDB data to help gain understanding of AI's performance.
- Utilized University servers and Python code to access and run AI on the node and feedback data to be implemented in a published research paper (https://doi.org/10.1101/2023.09.13.557627).

Laboratory Teaching Assistant — August 2023 - December 2023
Department of Computer Science, Colgate University

- Assisted 50 students in two sections of Discrete Structures (COSC 290) and one section of Data structures and algorithms (COSC 202) to enhance their understanding of Java and apply knowledge to lab assignments.
- Fielded questions and provided personalized assistance for students to improve Java skills.

Curriculum Developer — January 2023 - Present
Colgate Coders, Colgate University

- Fostered a community of over 100 computer science enthusiasts with events and activities for students to participate in.
- Facilitated students' skills in computer science and enhanced employability with educational presentations in topics in computer science (e.g. intro to R, HTML and CSS workshops in preparation for hackathon etc).

Director/Producer — August 2021 - Present
Colgate NCAA Division I Athletics, Colgate University

- Liaise with ESPN to dictate timings of media timeouts and ads to play during Colgate Division 1 athletics and NCAA games.
- Enhance viewership experience by working alongside replay assistant and directing camera angles to strategically broadcast clips.

Skills And Certifications

IACT Excel Certification: Completed self-directed Excel certification with comprehensive Excel portfolio project.
Computing: R, VBA, VB.NET, Python, Java and C - Made fully functioning random maze generation game from scratch using VB.NET and another using JavaFX - achieved second place at a hackathon.
My Website: https://tsinghdhesi.github.io/Tajveer-Website/