Dabeer Ali Mirza

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Education

- **University College London (UCL)** — London, UK
  MEng Mathematical Computation - Upper Second Class Expected — *Jun 2020*
  - **Relevant modules include:** Introduction to Programming (C & Haskell), Object-Oriented Programming (Java), Algorithms & Data Structures, Databases, Compilers, Computer Graphics, Operating Systems, Functional Programming, and Concurrency
  - **Student Academic Representative (StAR):** Elected to this position in which I liaised with the Computer Science faculty at UCL and ensure that the voices of those on my course are heard
  - **Hackstart Mentor:** Volunteered to teach Python to 14-19-year-olds who had no prior programming experience

Experience

- **Samsung Cambridge Solution Center (SLSC)** — Cambridge, UK
  Software Engineering Intern — *Jul 2019 - Sept 2019*
  - Under NDA
- **Scientific Technology Facilities Council (STFC)** — Didcot, UK
  Software Engineering Intern — *Jul 2018 - Sept 2018*
  - Built a LHC (Large Hadron Collider) in Virtual Reality using C++, HTC Vive, and Unreal Engine 4
  - Refactored previous solution from native scripting language (Blueprints) to C++, reducing rendering times by 60%, which limited motion sickness when using the application
- **University College London (UCL)** — London, UK
  Programming Mentor — *Oct 2017 - Jun 2018*
  - Educated 1st year university students on how to program in C, Haskell, and Java
  - Broke down Computer Science concepts and problems and conveyed them succinctly
  - Met scheduled classes, led discussions, answered questions, and clarified details
- **in2ScienceUK** — London, UK
  Computer Science Mentor — *Aug 2017 - Aug 2017*
  - Implemented guides which taught how to create the following games in Python & PyGame: Tic-Tac-Toe, Othello, and Brickbreaker. Files available on GitHub
  - Got students to create their own robots using Micro-Bits, and program them using a block editor
  - 95% of students reported that the course was "extremely effective" in preparing them for their applications to university

Projects

- **Project Moonlight (PHP | HTML | CSS | SQL | MDL)** Lead developer in a team of 3 where we developed an online database management system in collaboration with UNICEF. I implemented the search engine and back-end using PHP and SQL, and designed the front-end using HTML, CSS, and MDL. Awarded a 1st class mark
- **Projection Motion Simulator (Python | Pygame)** Developed and documented a 2D Projectile Motion simulation for the Physics department at Ilford County High School using Python for the back-end and the API Pygame for the front-end. Solves the SUVAT (physical parameters) systems of equations. Achieved 98.7% for this project. Files available on GitHub
- **Wizard's Trial (C# | Unity | HTC Vive Pro)** Lead a team of four in an agile manner to create an escape room in Mixed Reality (MR). I programmed the NPC (Non-Playable Character), implemented the credit scene, designed the levels, and implemented the final level using C#, Unity, and HTC Vive. Achieved a first class result for the module. Files available on GitHub
- **Z Compiler (Java | Jflex | BCEL | CUP)** Lead a team of 4 to create a compiler for the programming language: Z. Implemented the front-end using Jflex and CUP, and the back-end using BCEL and Java

Skills

- **Programming languages** Python, C, Haskell, JavaScript, C#
- **Technologies** Git, Linux, SciPy, NumPy, Unity, Unreal Engine 4, PyGame
- **Languages** English (fluent) & Urdu (fluent)