ZELLA BAIG

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EDUCATION & AWARDS

University of Oxford, St. Hilda's College - MPhys Physics   *2019 - 2023*
- 1st Class second year result
- St. Hilda's College Scholarship in Physics (academic scholarship based on performance)
- Crankstart Scholar (widening participation scholarship based on household income)
- Apollo Scholar (widening participation scholarship based on academic performance)
- Peer Supporter (Trained student welfare role)   *2021 - Present*

d'Overbroeck's Sixth Form   *2016 - 2018*
- 5 A Levels: Maths - A*, Further Maths - A*, Economics - A*, Physics - A*, French - B

Oulder Hill Community School   *2016*
- 11 GCSEs A*-A including English, Maths, and Science

EXPERIENCE

Ditchley Foundation (Network Analysis Intern)   *Jul 2021 - Aug 2021*
- Queried and analysed a neo4j graph database ($\sim$ 110K nodes) using Cypher Query Language alongside Python
- Drew out trends and within the database of people and presented them visually alongside my team
- Began topic modelling using on call notes within the database using the Gensim and NLTK libraries
- Conducted research into themes and roles of key figures for potential Ditchley Conferences

Jinja Education Trust (Research Intern)   *Jun 2021*
- Researched climate education resources and methods for use with schoolchildren in rural environments
- Identified and evaluated potential NGO funding sources for educational projects
- Provided outlne of steps required to incorporate practical skills in education, as well as skills needed for educators

Pupil Misconceptions: Circuits & Voltage (Report author)   *Jan 2021 - Apr 2021*
- Conducted research into electrical misconceptions using 2 secondary school physics cohorts
- Evaluated existing teaching against further educational research in electronics
- Identified key areas in which pupils struggle in dealing with circuits
- Provided reccomendations to partner school to bolster their GCSE physics programme

The Brilliant Club (Charity and Development Intern)   *Dec 2020*
- Aided the design of a maths program based upon cartesian geometry for secondary students
- Designed and recorded a physics presentation based on heat engines targeted at A level students
- Reviewed diversity provisioning and made reccomendations for more inclusive operations

OxFizz (Widening Participation Intern)   *Aug 2020*
- Created a month long research report on barriers for disadvantaged Oxbridge applicants with 2 other interns
- Conducted research through provider interviews and student questionnaires distributed to $\sim$ 500 students
- Investigated existing access provisioning and identified lacks therein, presenting these gaps graphically
- Provided reccomendations for future access support programmes, bearing in mind resource constraints
- Outlined and began development of a long-term student roadmap resource for Oxbridge applications

Kids Club Kampala (Research Intern)   *Jun 2020*
- Analysed an existing off-grid $\sim$ 640W PV system in for bottlenecks in hardware
- Identified hardware limitations of (lead-acid) batteries and charge controllers in the current setup
- Researched power solutions for existing and future needs, requiring up to $\sim 2,500$Wh daily
- Liased with local organisations to determine possible training and funding for the project

Citizens Advice (Campaigns and Research Intern)   *Apr 2020*
- Decomposed regional client profile trends ($\sim$ 6,000 entries) using spreadsheet software and Python
- Identified at-risk client demographics over a 6 month dataset
- Analysed the impact of COVID-19 on service usage
- Presented reports based on research to be used in targeting specific demographics of userbase

Cropper (Developer)   *Summer 2019 - Present*
- Created terminal program for *nix systems to edit media files
- Maintain Cropper in the Arch Linux User Repository
- Extended skills to develop various utility scripts such as bulk renaming

SKILLS

- Tableau, spreadsheet software, basic HTML, shellscript, MATLAB, Python 3, awk, sed, and LaTeX
- Version control using git
- Numerical modeling (such as via the RK4 or Metropolis-Hastings method)
- Basic natural language processing (e.g. text sanitisation and topic modelling)