

# Kaalkidan Sahele

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## Education

<b>Durham University</b> Computer Science (MEng) 2021 - Present (Grad. 2025)	Advanced Final Project: “Transitive Orientation on Temporal Graphs with Evolving Vertex Sets” Current Grade Average: <b>80%</b>
<b>All Saints Sixth Form</b> 2019 - 2021	<b>x5 A*</b> (Mathematics, Further Mathematics, Physics, Computer Science, EPQ: an investigation of the effect of quantum computing on cryptography)

## Employment

<b>Mitacs Globalink Research Intern   University of Toronto</b> Pennylane, Qiskit, Compute Canada for HPC Jun 2024 - Sep 2024	<ul style="list-style-type: none"><li>Derived novel pulse functions for quantum circuits, improving gate-to-pulse conversion fidelities of rotation gates</li><li>Achieved novel pulse based implementation of encoder circuits using gate-to-pulse conversion</li><li>Co-authored paper titled “Parameterised Encoder Circuits and Efficient Circuit Growth for QML”</li></ul>
<b>Lab Demonstrator   Durham University</b> Python, Jupyter Notebooks, Turing Machine Simulator Sep 2023 - Present	<ul style="list-style-type: none"><li>Lead problem classes for modules: Theory of Computation, Algorithms &amp; Data Structures, Linear Algebra, Calculus</li></ul>
<b>IT Officer   St. Aidan’s JCR CIO, Durham University</b> Django, JavaScript, HTML & CSS, Wagtail CMS, Heroku, AWS, SQL, PostgreSQL Jun 2022 - Jul 2023	<ul style="list-style-type: none"><li>Redesigned the website, improving site visitor count by 11%</li><li>Migrated 8000 rows of data from website database from Heroku to AWS via Windows PowerShell</li><li>Streamlined the online Google workspace for the entire JCR executive committee</li></ul>
<b>Teaching Assistant   Kumon Tutoring</b> Sep 2019 – Jul 2021	

## Leadership & Volunteering (Other Work Experience)

<b>President   Durham University Computing Society</b> Google Workspace, 1Password, Microsoft Office 365 Jun 2024 - Present	<ul style="list-style-type: none"><li>Lead executive team &amp; society, including overseeing all 5 subdivisions (Durham University Women in Tech/ DurHack/ DurHack: Next Gen/ Durham SIAM &amp; IMA Chapter/ Robotics/ Student Cluster HPC Team)</li><li>Managed entire DU CompSoc workspace and password and file management,</li><li>Introduce new “Project Lab” initiative, allowing students run workshops and develop technical skills by producing projects</li></ul>
<b>Networking &amp; Sponsorship Officer   Durham University Women In Tech</b> Jun 2024 - Present	<ul style="list-style-type: none"><li>Responsible for securing investments &amp; sponsorships from alumni, companies, and departments</li><li>Co-founded NEUWiT - North East Universities Women In Tech: an extended women in tech community</li></ul>
<b>Head of Hacker Experience   Durham University’s Hackathon - DurHack</b> GitHub, Sci-Kit Learn, Systems Design Dec 2023 - Present	<ul style="list-style-type: none"><li>Lead a team of Hacker Experience officers</li><li>Contribute to developing and optimising the algorithm behind for judge allocation with Jury</li><li>Improve accessibility, diversity, and inclusion at DurHack 2024</li><li>Workshop-Lead: Introduction to GitHub &amp; IDEs, Hackathon Pitching, Introduction to Machine Learning</li></ul>
<b>Mentor   Hack The North 2024</b> Sep 2024 - Sep 2024	<ul style="list-style-type: none"><li>Aided 20+ teams with technical and presentation queries for various projects at Canada’s largest hackathon</li></ul>
<b>Media and Publicity Officer   Durham University Computing Society, DUWiT</b> Canva, Figma, Krita, Adobe Creative Cloud Jul 2023 – Jun 2024	

## Projects & Awards

<b>Projects</b>	<ul style="list-style-type: none"><li><b>Lean Mean Washing Machine (DurHack 2022: First Place Overall)</b> (Kera, PyTorch, Django, React) Web application: Neural network for image classification to scan washing labels and produce corresponding description. Mobile version built using React.</li><li><b>Knowledge Enhancement Virtual Invironment Neurodiversity Support (KEVINs)</b> (Unity, Llama LLM, Python) VR reading assistant on Meta Quest 2 for presenting web-scraped text. Changes text features to accommodate various preferences for people with dyslexia. Also generates text summaries.</li><li><b>DU Calm: Adaptive Virtual Reality Mediative System</b> (Unity, FitBit API, C#, JavaScript) VR meditative (Meta Quest 2) program that adapts meditation instructions to user’s heart rate (FitBit Versa 2)</li><li><b>LinkedOutReach (Hack The 6ix, 2024)</b> (Python, Cohere LLM, React, Vite, TypeScript, MantineUI, MongoDB) Web application that scrapes user’s LinkedIn profile data and utilise spaCy, Stanza, and other NLP toolkits to craft personalised message.</li></ul>
<b>Awards</b>	Durham Inspired Coleman Scholarship 2021-25 (one recipient per cohort); Mitacs Certificate of Completion 2024; x2 Hackathon Winner