Tom Donnelly

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Personal Profile

A keen programmer with a MSc in Pure Mathematics, and over 4 years work experience in the Education, Community, and Charity sectors. My particular strengths are solving problems, training people and providing customer service.

Projects

Quick weather t0mdd.github.io/quickWeather	JavaScript application which connects APIs to fetch and present weather data via an interactive map or text search.
Memory game t0mdd.github.io/memoryGame	Fun little React application using hooks and functional programming for readable, reusable and concise code.
Geozone geozone.neocities.org	My first passion project, an interactive fractal/mathematical art website built using the Canvas API in JavaScript
Todo List t0mdd.github.io/todoList	Pure JavaScript application allowing the user to create task cards with varying priorities inside projects which are saved to local storage. Tasks can be edited and organized according to chosen parameters.

Education and Qualifications

PGCE Secondary Mathematics, School Direct	University of Chester	2021
MSc Pure Mathematics (Distinction)	University of Manchester	2019
BSc Mathematics (First)	University of Manchester	2018
A-Levels in Computing, Mathematics, Further Mathematics and Physics	The Catholic High School, Chester	2015

Key Skills Selected Achievements and Experience

Technical and Expository Writing

Researched and wrote a comprehensive 60-page exposition on topics in Fractal Geometry for MSc dissertation: Created a simplified narrative linking several different research papers. Organized and wrote resources to provide scaffolding and background. Typeset and presented the material in Latex. Showed and explained how the results and techniques in the research papers could be extended and generalized into new mathematical territory. *This exposition was an effective introduction into research level mathematics accessible to undergraduates and was awarded a mark of 82%.*

Created bespoke resources for Gifted and Talented students in high school during my PGCE: Extended areas of algebra and geometry into rarely taught topics such as introducing Cardano's solution to the Cubic, proofs of triangle properties from Euclidean Geometry and the scarcity of Platonic Solids. Created thorough and accessible explanations and demonstrations of every claim made so that nothing would have to be taken on faith. Created and gathered a large quantity of images and animations to illustrate the Mathematics and provide additional perspectives of concepts in the writing. *The resources were highly praised by my colleagues and captured the interest of every student who accessed them during my supervision.*

Teaching People

Tutored students of various abilities in GCSE Mathematics: Planned and structured learning in accordance with the Mastery Approach. Created written and physical resources to provide support and challenge, that was missing from their school education. Organized homework and work schedules to suit each student's needs. *As a result I sparked interest in Mathematics in my students, helped them to progress, and one student's grade improved from an E to a C.*

Created new approaches to teaching Mathematics for increased understanding: Cleared the misconception among my year 7s that division is simply following an algorithm by devising a set of questions for which this algorithm fails. This gave students the intellectual need for its deeper meaning. Broadened my year 9s understanding of area through prioritising hands-on experience over memorizing formulas, and generalising their knowledge of length. Further, explained that the concept is the same whatever unit is used, whether that is square centimeters, circles or stars. *As a result, my students received a deeper understanding and appreciation of Mathematics than the usual memorization routine in most high schools.*

Dealing with Customers

Created and maintained strong working relationships with my students and their parents: Developed rapport with students and fostered interest in Mathematics by linking studies to their interests, such as sports and gaming. Secured loyalty through my friendly easy-going attitude and snappy pitches of my services. Constantly reassured students lacking confidence through patience and appropriate use of humour. *As a result, over 80% of my customers continued to book me for as long as they needed a tutor, and I received excellent feedback from my customers online.*

Served and assisted customers while volunteering at RSPCA Manchester: Arranged displays for maximum aesthetic appeal to attract customers to the shop. Made relaxing and entertaining conversation with customers to leave a good impression. Stayed calm and assertive during the rare encounters with dissatisfied customers. *The owners of the shop were so impressed with my customer service skills that I was designated as the first point of contact to customers unless I currently had more pressing duties.*

Career Summary

Data Input Operative	Vision Support Trading, Chester. Competitive work environment which provides services for visually impaired people.	2021 - present
Independent Maths Tutor	Student's homes throughout Chester	2018 - 2020
Maths Teaching Assistant	The Studio, Liverpool. High school specializing in technology.	2017 Internship
Retail & Customer Assistant	RSPCA, Manchester Northern Quarter. Boutique charity shop in the city centre.	2016 - 2017 Part time
Student Support Assistant	Northmoor Community Centre. Busy community centre relieving poverty and advancing skills.	2016 - 2017 Part time
IT & English Teacher	The Unity Centre. A charity supporting refugees and disadvantaged groups in society.	2016 Short Term Contract

Training and Development

Cisco CCNA	IT Certification focused on Networking.	February 2023 - present
The Odin Project	Full stack web development curriculum using HTML/CSS/JavaScript, Node.js and MongoDB.	April 2022 - present
The Structure and Interpretation of Computer Programs (& Exercises)	Classic book covering functional programming and algorithm design; containing challenging problems.	2021 - present
Object Oriented Programming in Java and Theory of Computation	Course provided by the University of Manchester. Received an average grade of 67%.	2015 - 2016