

# Bryce McHugh

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Recent graduate with a Masters in Discrete Mathematics. A quick learner, looking for new challenges in a work environment that provides opportunities for growth. An adaptive, team player, with experience leading, training and collaborating with teams of peers. Academic interests include: Quantum computation, Learning theory, Quantum learning theory, Learning Augmented Algorithms and Algorithm Design. Personal interests include: Asymmetric board games, tabletop roleplaying, running, technical theatre and computer games.

## Key skills

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Software engineering, Algorithm Development, Communication, Java, Teamwork

## Past work experience

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- Customer assistant – Tesco (Apr. 2020 – Aug. 2020)
  - Collecting and organising items for delivery or collection. Honed skills of teamwork, working quickly and accurately as well as customer service skills
- Bar Staff – Royal Oak (December 2019)
  - Worked behind bar serving drinks, taking food orders and cleaning during peak hours.
  - Developed the ability to multi-task whilst providing efficient customer service and maintaining clean workstations
- Maths Teaching assistant – Duke of York's Royal military school (Nov. 2018 – March 2019)
  - Provided individual support to students who struggled with following the teacher's initial explanation of given concepts and provided additional tailored and concise explanations to improve the student's understanding

## Education

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- **MEng** Discrete Mathematics – University of Warwick (Sept. 2019 – June 2023)
  - 1<sup>st</sup> class. Including modules in Quantum Computing, Complexity of Algorithms, Neural Computing, Computational Learning Theory, Machine Learning, Agent Based Systems, Data Mining, Formal Systems Development and Algorithmic Game Theory.
- **A Levels** – Dover Grammar School (Sept. 2017 - June 2019):
  - A\* in Mathematics, A in Further Mathematics and Physics, B in EPQ, C in Film Studies and a Merit in the Maths Advanced extension
- **GCSEs** - Dover Grammar School (Sept. 2015 - June 2017)
  - 11 GCSEs including a 9 in Maths and an A in Computer Science

## Projects

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- Learning Augmented Algorithms and their applications to queues (Sept. 2021 – Apr.2022)
  - Project on Learning Augmented Algorithms and their applications to queues. Developed a program in Java to study the effects off including a prediction to the length of time jobs spent in the queue. The final report can be found [here](#)

## Volunteering and leadership

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- Warwick Tech Crew (Sept. 2019 – March 2023)
  - Taught classes in sound design, stage management and general technical stage practices
  - Help setting up shows in which a large amount of teaching newer members whilst assembling technical equipment for the show
  - Sound designed for several shows including Legally Blonde and was the technical manager for 35mm and several devised shows.
  - Held the seat of Social Secretary (2020-2021)
  - Held the seat of Vice President (2021-2022) which entailed overseeing equipment maintenance, equipment hires and providing assistance to the President.
- Dover Grammar School (July 2018 – June 2019)
  - Held the position of prefect
  - Assisted in the running of after school events including parent's evenings, school concerts and open days
  - Presented to groups of parents and potential students and fielded questions regarding the school
  - Organised and ran internal sixth form events
  - Provided technical expertise and commentary for website design and implementation
- CXK (Dec. 2014 – Feb. 2017)
  - Held a seat on the Youth Board
  - Advised the main Board of Trustees on how the work of CXK affected young people

## Skills and interests

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- Technical skills: AI, Algorithm Development, Analysis, Analytics, Big Data, Bug Tracking, Computer Engineering, Data Processing, Data Science, Multithreading, Neural Computing, Programming, Quantum Computing, Reporting & Analysis, Software Development, Software engineering, Statistical Data Analysis, Troubleshooting
- Soft skills: Attention to Detail, Communication, Customer Service, Presentations, Skill Development, Teaching, Teamwork
- Programming/Software: Atiler B, Bash, C, Cascading Style Sheets (CSS), Hypertext Markup Language, Java, JavaCC, JavaScript, MATLAB, Microsoft Excel, Microsoft PowerPoint, Prolog, Python, R (Programming Language), WEKA
- Interests: Board Games, Climbing, Computer Games, Running, Tabletop role playing, Technical Theatre, Theatre

## References

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Available upon request