Charlie Street

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*As a highly driven individual with a strong academic record, I throw myself into any challenge
I am confronted with. With extra-curricular experience working in teams, I believe I can add
value to any team-based project.*

Education

- **Postgraduate (2018-2022)** Studying DPhil Engineering Science at the University of Oxford.

    - (Current) Thesis Title: Multi-robot planning to exploit long-term knowledge in an everyday environment.
    - Supervised by Prof. Nick Hawes (Oxford Robotics Institute), Dr. Bruno Lacerda (Oxford Robotics Institute) & Dr.-Ing. Manuel Mühlig (Honda Research Institute).
    - I am currently in my first year of research, where I am working on planning for multi-robot systems in environments where congestion may slow down the robots we are planning for.

- **Undergraduate (2014-2018)** Studied MSci Computer Science at the University of Birmingham.

    - Achieved average grades of **94%**, **95%**, **89.5%** and **93.3%** in each year chronologically.
    - Graduated July 2018 with a First Class with Honours (overall degree average of **92%**).
    - Won Best in Degree Programme 2014/15, 2015/16, 2016/17 & 2017/18.
    - Won Undergraduate Distinguished Dissertation Prize 2018.
    - Won BCS Prize for Best in Year 2014/15.
    - Won IBM Team Project Prize 2015/16.
    - Awarded School of Computer Science Excellence Scholarship during first year.
    - In April 2018 I submitted my master's dissertation titled: 'IntelliJam: An Intelligent Agent for Musical Improvisation'.
    - Completed modules in Intelligent Robotics, Machine Learning, Neural Computation, Operating Systems, Networks, Functional Programming and Computer Security among others.

Technical Skills

Programming Languages

Python	I am very familiar with Python, having used it almost exclusively since starting my DPhil.
C	I have strong experience with memory management, pointers etc.
C++	I can use classes and templates on top of the underlying C functionality.
Haskell	I have a reasonable understanding of Haskell and the functional paradigm.
Agda	I can formulate inductive proofs over basic numbering systems and data structures.
Java	I have a strong level of proficiency, having used Java heavily during my time at university.
OCaml	I have an understanding of the syntax and underlying concepts of the language.

Other

Git   I have experience using Git, having used it for any significant project I have partaken in.

LaTeX   I've produced many documents in LaTeX, notably my dissertation.

ROS   I've had experience working with/running robotics systems using the ROS middleware.

Projects

- **IntelliJam (2017-2018)** The software created alongside my master's dissertation. IntelliJam uses Fractal Prediction Machines to allow a guitar player to play whilst connected to a computer and have an agent respond to their playing with new musical phrases in real time. In addition to the agent, a new method of melody extraction based on spectrogram filtering was devised.

- **Dating Chat-Bot for 'The Gadget Show' (2016)** A project for the TV show to create a bot to partake in speed-dating. The goal was for an unknowing subject to choose the bot over a human. I led the back-end/AI sub-team; I was the majority contributor to the design and implementation of the bot. This forced me to think creatively while under time-pressure.

- **Simulizer (2016-2017)** A project initially undertaken for a second year module but continued since. Simulizer is a simulator and visualiser for a MIPS R3000 processor. Working in a team of 5, I was in charge of the back-end, requiring me to write a faithful simulation of the R3000 processor, including a primitive pipeline for execution. This has since been used as a significant teaching aid for the 'Computer Systems & Architecture' module at the University of Birmingham. Students had to write assignments in Simulizer; the assignments were graded using the software.

- See **GitHub** for more projects.

Extra-Curricular Interests And Experiences

- **Music** I am an avid musician, having played the guitar since the age of 12 with interest in many musical genres. This has required great commitment and perseverance. Previously, I have been lead guitarist/backing vocalist for a rock covers band. Being an active member of a band has improved my ability to cooperate well within a group and listen to those around me.

- **Duke Of Edinburgh Award** I've completed all 3 levels of the DofE award scheme. This required large amounts of team-work and communication, particularly during expeditions, which involved working in a team of 4 for 4 days on Dartmoor. This greatly benefit my leadership skills. I also partook in voluntary work including working in a local charity shop and aiding restoration work along a canal near Gloucester.

References

Prof. Nick Hawes: `nickh@robots.ox.ac.uk`
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