Charlie Street
56 Metchley Lane
Birmingham
B17 0HS
+44 7917601977
c.l.street@bham.ac.uk

May 20, 2024

School of Computer Science
University of Birmingham
Birmingham
B15 2TT

To whom it may concern,

I am writing to apply for the assistant professor position in cyber-physical systems (4651). I have years of experience in the school of computer science as a member of staff and as a student. I have been a research fellow in the school since January 2023. This followed my PhD, which I completed at the University of Oxford in 2022. My experience with research, teaching, leadership and outreach have given me the skills required of an assistant professor.

I am interested in applying artificial intelligence and formal verification techniques to robotics. My research goal is to develop robotic systems with a guaranteed quality of service under uncertainty. My current research focuses on robot planning under spatiotemporal uncertainty as part of EU Horizon project CONVINCE. For this, I apply sequential decision-making techniques to data-driven models of uncertainty. A core achievement of my research so far has been multi-robot planning solutions which apply model checking techniques to reason over the temporal behaviour of robots and other processes in the environment. My work has appeared in top venues such as the IEEE Transactions on Robotics (T-RO), the Journal for Artificial Intelligence Research (JAIR), and the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS). My research aims to make robots robust to the complexities and uncertainty of real-world environments. Techniques I've developed have been applied to agricultural robotics with the University of Lincoln, and warehouse order picking systems with Accenture Labs. I have also recently co-authored grant proposals for an EU Horizon project and a Google scholarship, giving me my first exposure to grant writing. I am excited to continue my research, and an assistant professorship in the school of computer science provides an ideal opportunity to pursue it.

I am enthuastic to teach and supervise students. Teaching is crucial to academic life, and provides an excellent opportunity to develop communication and presentation skills. I have taught lectures for the Advanced Robotics course, and helped design the latest exam. During my PhD I taught undergraduates to develop robot software in Oxford's RoboCup team, and worked as a teaching assistant on a robotics crash course for CDT students. I have supervised numerous undergraduate,

masters, and internship projects, and have designed multiple projects as well. I am also currently co-supervising two PhD students. I am excited to further develop my teaching and supervision skills, and find new ways to engage students.

I've adopted leadership and management roles which prepare me for an assistant professorship. I'm currently a technical work package lead in EU Horizon project CONVINCE. As well as internal management I collaborate with other consortium members, balancing our requirements with theirs to help build a cohesive robotic toolchain. During my PhD, I led the University of Oxford's RoboCup team, as well as external collaborations with Accenture Labs. Further, I organised a half-day tutorial on multi-robot planning under uncertainty at AAMAS 2023. I feel comfortable in these leadership positions, and have learned to efficiently manage tasks under tight deadlines.

I am an active citizen of the school and will deepen my involvement as an assistant professor. I have integrated myself into the school through social events and presentation opportunities such as facts and snacks. I am heavily involved with the robotics labs and have given multiple tours to students and members of the university's robotics society. I am also involved in the ongoing update and reorganisation of both labs. I want to be a champion for the school and am eager to help with open days. I want to bring robotics back to open days, as watching 'Bob' run in the building played a significant role in me choosing to study in Birmingham. A longstanding goal of mine is to get Bob up and running again for future open days.

I have substantial experience with enterprise, engagement, and impact. While leading Oxford's RoboCup team I focused on widening participation, recruiting students who hadn't previously had the opportunity to work in robotics. I've also led multiple robotic demos at public events including the Goodwood Festival of Speed, University of Oxford open days, and the grand opening of an Oxford college building attended by Prince William. I am passionate about outreach, and through these events have learned how to explain complex topics to the public in an accessible and entertaining way.

Using my skills and experience, I will quickly adapt to the role of assistant professor. To support this application I include a research statement, teaching statement, and CV along with this cover letter. Thank you for reading my application, and I look forward to hearing from you.

Yours faithfully,

Charlie Street