Michal Staniaszek

British national m.staniaszek@gmail.com github.com/heuristicus

Employment History

Nov 2019 to Present

Robotics Software Engineer at Oxford Robotics Institute, University of Oxford, Oxford, UK

- Lead developer on robot-agnostic autonomy system used across the institute on Spot, Scitos X3, HSR, and Jackal.
- Responsible for integration of hardware and software capabilities on Spot. Improved the spot_ros package.
- Refined internal Spot risk assessment and developed additional safety software and hardware with the hardware team.
- Ran trials and demonstrations of Spot to the public, project funders, and industry, including nuclear and construction.
- Assisted development on the *Frontier* mapping device, integrating onto robots and automating software setup.
- Created procman_ros, porting the existing distributed process manager package to ROS and GTK3+.

Jun 2017 to Jan 2019

Research Assistant at Vision For Robotics Group, Technische Universität Wien, Vienna, Austria

- PhD candidate and teaching assistant, working on semantic segmentation and mapping for long-term robot autonomy.
- Reviewed literature on 3d segmentation and SLAM, evaluated performance of various state of the art algorithms.

Oct 2016 to May 2017

STRANDS Project Research Associate at University of Birmingham, Birmingham, UK

- On-site support for robot deployment, assisting project partners setting up and debugging their code on the Scitos G5.
- General linux hardware and software support, network configuration and status monitoring.
- Created RViz tools and panels to display and quickly and easily modify the graph-based autonomy system.
- Implemented scripts for robot startup and easier creation of task routines for long-term autonomy.
- Improved software package documentation, scripted aggregation of documentation from all project repositories.

Jul 2015 to Jan 2016

Innovation Team Intern at Yujin Robot Co., Ltd, Seoul, Republic of Korea

- Co-design and implementation of the py_trees package and visualisation, now a popular Python behaviour tree library.
- Behaviour design, diagnostics, simulation layer implementation, and module interfacing in ROS for the GoCart robot.
- Helped with ROS integration of web interface packages for robot control using REST and Celery.
- Contributed to open source ROS packages diagnostic_aggregator and audio_common.

Education and Qualifications

Aug 2013 to Jun 2015

MSc Systems, Control and Robotics, Robotics and Autonomous Systems track
KTH Royal Institute of Technology, Stockholm, Sweden

Sep 2009 to Jun 2013

BSc (Hons) Computer Science with Study Abroad, First Class Honours
University of Birmingham, Birmingham, UK

Sep 2011 to Jul 2012

Japanese Language Programme, Advanced Level
Keio University, Tokyo, Japan
Japanese Language Proficiency Test level N1 (Highest level)

Publications

May 2022

Street, C., Lacerda, B., Staniaszek, M., Mühlig, M., & Hawes, N. **Context-Aware Modelling for Multi-Robot Systems Under Uncertainty**. 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS 22)

- Multi-robot ROS configuration of nav and other packages for Jackals in sim and on physical hardware for experiments.
- Configured hardware and linux network configuration for multi-robot operation.

Jun 2015

Staniaszek, M. **Feature-Feature Matching for Object Retrieval in Point Clouds** [Master's Thesis]

- Developed a system with PCL and ROS to extract features from point clouds and query the feature set for objects.
- Performed a comparative evaluation to find good descriptors and interest point methods. Supervised by John Folkesson.

Apr 2013

Staniaszek, M. **Time Delay Estimation in Gravitationally Lensed Photon Streams** [Bachelor's Thesis]

- Created software to estimate characteristic functions of streams with weighted least squares techniques.
- Compared streams with probabilistic techniques to estimate the time delay. Supervised by Peter Tiňo.

Teaching

Jun 2017 to Jan 2019 | **Teaching Assistant** at Vision for Robotics Group, Technische Universität Wien
- Administered the Masters' *Machine Vision and Cognitive Robotics* and Bachelors' *Robotics and Computer Vision* courses.
- Updated and maintained assignment content, managed tutors, graded assignments, and provided assistance to students.

Jan 2017 to Apr 2017 | **Robot Programming Demonstrator** at University of Birmingham
- Discussed theoretical and software problems with students to help them understand the AI concepts being taught.
- Helped students work together as teams to complete assignments, and graded them based on live demonstrations.

Volunteering and Civil Society

May 2019 to Present | **Assistant Observer** at Democracy Volunteers
- Accredited observer for local and general elections in the UK, Belgium, Netherlands, and USA.
- Attended polling stations on election day and recorded conformity with best practice for elections.

May 2021 | **Presiding Officer** for Oxford City Council Elections
- Responsible for running a polling station on election day, including security of the ballot.
- Collected ballot boxes, set up the station, provided ballots to voters, answered questions about voting process.

Apr 2019 to Nov 2019 | **Warehouse Volunteer** at Fareshare London
- Categorised and arranged incoming food in the warehouse, gathered food orders for distribution to charities.

Scholarships and Awards

Jul 2013 | **Computer Science Prize & Research Committee Project Prize** at University of Birmingham
- School of Computer Science award for the top final year student, and best research project thesis.

Jul 2011 | **Nuffield Undergraduate Research Bursary** at University of Birmingham
- Bursary to support a summer research project to investigate particle filter localisation for AUVs.

Programming and Software

Python, C++, ROS, git, Linux, Qt, bash

Public repositories at github.com/heuristicus

Languages

English (native), Japanese (good), Polish (good)
German (basic)

Referees

Addresses and positions for referees are current. Bold text indicates where the person supervised me.

Oxford Robotics Institute
Nick Hawes
Associate Professor in Engineering Science
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Oxford Robotics Institute
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