20 Wilkes Court, Hartree Way, Kesgrave, Ipswich, UK, IP5 2EQ

XUEYI ZOU

+44 (0) 7423078194
xz972@york.ac.uk

EMPLOYMENT/INTERNSHIP

Open Source Developer **Google Summer of Code** **Summer 2014**

Project: PRISM Probabilistic Model Checker

- Developed a PRISM extension for checking Partially Observable Markov Decision Process (POMDP) models.
- Did Research on POMDP solvers and published a paper.

Teaching Assistant **University of York** **Autumn term 2012**

Course: Machine Learning and Applications

- Providing support to students with mathematics difficulties.
- Providing support for course exercises and practices.

Software Design Engineer, part-time **Wiibox (a Startup)** **Jul 2010 – Oct 2011**

- Designed the interaction procedures for a close-friend life sharing product.
- Helped to build the testing framework for the product and the company.

EDUCATION

York, UK **University of York** **Sept 2012 – Present**

- PhD student in Computer Science.
- Dissertation Title: "*Validation Test of UAV Sense-and-Avoid Algorithms with Agent-Based Simulation and Evolutionary Search*."

Beijing, China **Beijing University of Aeronautics and Astronautics** **Sept 2010 – Sept 2012**

- PhD candidate (drop out) in Software Engineering.
- Research: Software-Intensive System Safety, Reliable Embedded Software Systems.

Beijing, China **Beijing University of Aeronautics and Astronautics** **Sept 2006 – Sept 2010**

- B.S.E. Major in Reliability and System Engineering. GPA: 3.71/4. Ranking: 1/54.
- Dissertation Title: "*Testing Methods for FPGA Software*."

TECHNICAL EXPERIENCE

Projects

- **UAV Collision Avoidance Algorithm** (2014-2015). A library for Unmanned Aerial Vehicle (UAV) collision avoidance based on Markov Decision Process (MDP) and Dynamic Programming. C++
- **UAV Conflict Resolution Algorithm** (2014). A library for UAV conflict resolution based on the idea of Velocity Obstacles and using linear programming. Java
- **Camera-Based Navigation of Drones** (2015-2016). A monocular SLAM system, an extended Kalman filter for data fusion and state estimation, and a PID controller to generate steering commands. ROS, OpenCV, C++

SPECIALTIES AND RESEARCH INTERESTS

- Simultaneous Localization and Mapping (SLAM), Visual Odometry and Visual SLAM;
- Machine Learning and Deep Learning, Convolutional Neural Networks (CNN) for visual recognition;
- Robot Path and Motion Planning, Collision Avoidance, Planning and Decision Making under Uncertainty.

LANGUAGES AND TECHNOLOGIES

- Development capability under Windows and Linux (Ubuntu).
- Java (5+ years of experience), C/C++ (3+ years of experience), Competent with Python, Matlab.
- Robot Operating System (ROS), Gazebo, OpenCV, Point Cloud Library (PCL), Git/GitHub, Latex, Weka

AWARDS

- 2012 · Tuition Waiver Scholarship, University of York.
- 2012 · Study Abroad Scholarship, China Scholarship Council (CSC).
- 2010 · Outstanding Graduate, Beijing University of Aeronautics and Astronautics.
- 2007 · China National Scholarship.

ADDITIONAL INFORMATION

- Homepage: https://xueyizou.github.io/
- Linkedin: https://uk.linkedin.com/in/xueyizou
- Github: https://github.com/xueyizou

REFERENCES

- Prof. John McDermid, OBE, FREng, Professor, University of York.
  Department of Computer Science, University of York, Deramore Lane, York, YO10 5GH
  john.mcdermid@york.ac.uk | +44 (0)1904 325419

- Dr. Rob Alexander, Lecturer, University of York.
  Department of Computer Science, University of York, Deramore Lane, York, YO10 5GH
  rob.alexander@york.ac.uk | +44 (0)1904 325474

PUBLICATIONS

- A Testing Method for Multi-UAV Conflict Resolution using Agent-Based Simulation and Multi-Objective Search, *Xueyi Zou*, Rob Alexander and John McDermid, AIAA Journal of Aerospace Information Systems, April, 2016.
- Validating Unmanned Aerial Vehicle Sense and Avoid Algorithms with Evolutionary Search, *Xueyi Zou*, Student forum of the 46th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), June, 2016.
- On the Validation of a UAV Collision Avoidance System Developed by Model Based Optimization: Challenges and a Tentative Partial Solution, *Xueyi Zou*, Rob Alexander and John McDermid, 2nd International Workshop on Safety and Security of Intelligent Vehicles, DSN workshop, June, 2016.
- Verification and Control of Partially Observable Probabilistic Real-Time Systems, Gethin Norman, David Parker and *Xueyi Zou*, 13th International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2015), September, 2015.
- Safety Validation of Sense and Avoid Algorithms Using Simulation and Evolutionary Search, *Xueyi Zou*, Rob Alexander and John McDermid, Proceedings of the 33rd International Conference on Computer Safety, Reliability and Security (SAFECOMP'14), September, 2014.
- The methods of FPGA software verification, Ding Zheng, Wang Yichen and *Zou Xueyi*, IEEE International Conference on Computer Science and Automation Engineering, June, 2011.

POSITION RELATED ONLINE COURSES I HAVE TAKEN

Robotics:

- Introduction to Mobile Robotics (by Prof. Wolfram Burgard, Uni-Freiburg)
- Artificial Intelligence for Robotics (by Prof. Sebastian Thrun, Stanford, Udacity)
- Visual Navigation for Flying Robots (by Dr. Jürgen Sturm, TU München, edx)
- Computational Motion Planning (by Prof. CJ Taylor , Uni-Penn, Coursera)

Computer Vision:

- Introduction to Computer Vision (by Prof. Aaron Bobick, GeorgiaTech, Udacity)
- Multiple View Geometry (by Prof. Dr. Daniel Cremers, TU München)
- Convolutional Neural Networks for Visual Recognition (by Prof. Feifei Li, Stanford)

Artificial Intelligence and Machine Learning:

- Artificial Intelligence (by Prof. Pieter Abbeel, Berkeley, edx)
- Machine Learning (by Prof. Andrew Ng, Stanford, Coursera)
- Unsupervised Feature Learning and Deep Learning (by Prof. Andrew Ng)