**PhD Project Proposal**

School of Electronics, Electrical Engineering and Computer Science

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| **Proposed Project Title:** Training a chatbot in the wild |
| **Principal Supervisor: Vien Ngo Second Supervisor: Neil Robertson**  **Third Supervisor: Barry Devereux** |
| **Project Description:** We have recently seen a remarkable development of AI in speech translation, natural language understanding, AlphaGO, etc. Among AI disciplines, reinforcement learning (RL) has impressively revolutionized this field. This project aims to build an RL agent that can think, reason, and communicate with humans. To make a smooth conversation flow, the agent is required to understand the conversation context, human intention and then to decide what to say next to the human (assumed in texts). The whole process is formulated as one sequential decision making problem, therefore amounts to a RL task. This project will propose a new type of learning algorithms to train a chatbot. The main techniques that will be used in this project will be imitation learning, deep learning for sequence-to-squence, and deep reinforcement learning. |
| **Contact details**  Supervisor Name: Vien Ngo Tel: +44 (0)28 9097 1824  QUB Address: 03-032 CSB Email: v.ngo@qub.ac.uk |