

CHARLES RINGER

Personal Details

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About

I am a PhD student at Goldsmiths, University of London but based at the University of York. I am part of the Intelligent Games and Game Intelligence (IGGI) programme, a £12 million EPSRC Centre for Doctoral Training. In my spare time I enjoy playing and designing board games, my favourites include Android: Netrunner and games by Uwe Rosenberg. I enjoy giving talks, teaching, and disseminating knowledge.

Research Interests

I am interested in AI and Machine Learning applications for Games with a focus on the ways in which we can use Deep Learning to model various facets of video games streams (e.g. stream highlights, emotional moments, in-game events, various streamer behaviours etc.) Essentially my research has two motivating factors. Firstly, the challenge of how to fuse multi-view stream data (e.g. audio, web-cam footage, game footage, chat) into a single model, especially when consider the challenges of live in-the-wild data. Secondly, the seemingly untapped and bountiful source of data that live streaming is, especially regarding the way in which streams play games and interact with their audience. In essence my work spans many Machine Learning fields, such as Computer Vision, Affect Computing, and Natural Language Processing. Part of the challenge, and enjoyment, in my research is around how to join techniques from all of these fields.

Publications

Conference Papers:

- Ringer, Walker and Nicolaou, Multimodal Joint Emotion and Game Context Recognition in League of Legends Livestreams, IEEE Conference on Games 2019
- Bonnametti, Ringer, Hall, Wade and Drachen, Modelling Early User-Game Interactions for Joint Estimation of Survival Time and Churn Probability, IEEE Conference on Games 2019
- Ringer and Nicolaou, Deep Unsupervised Multi-View Detection of Video Game Stream Highlights, Foundations in Digital Games 2018

Workshop Papers:

- Nicolaou and Ringer, Streaming Behaviour: Live Streaming as a Paradigm for Multi-view Analysis of Emotional and Social Signals, All the World (Wide Web) is a Stage: A Twitch Workshop at Foundations of Digital Games 2018

Education

Current	PhD/MPhil in Intelligent Games and Games Intelligence, Goldsmiths, University of London Research Topic: Multi-view emotional and behavioural modeling of video game streams .
June 2017	BSc in Computer Science, Goldsmiths, University of London First Class Honours (87% overall). Third year modules: Machine Learning, Artificial Intelligence, Game AI Programming, Data Mining.
June 2009	High School Education, Carisbrooke High School 3 A Levels (Grades AAC) and 4 AS Levels. 13 GCSEs at Grades A-C including Mathematics and English.

Work Experience

Feb 2019 Jan 2019	Intern Technology Developer - Bossa Studios Duties: <ul style="list-style-type: none">- Short 8-week internship investigating applications of my PhD research in a games studio.- Informed my ongoing research and enabled me to better understand the future direction of my work
Aug 2017 June 2017	Research Assistant - Goldsmiths, University of London Duties: <ul style="list-style-type: none">- 12 week funded research project applying analogy based conceptual blending theory to video games design.- Used the Video Game Description Language framework and C# to develop a tool to generate the blend space for two input games.
Sept 2014 May 2012	Junior Programmer - Stainless Games Ltd. Duties: <ul style="list-style-type: none">- Writing LUA scripts which controlled various in game aspects.- Determining heuristic values for game elements that were used by the AI.- Responsible for various markup duties such as writing XML files and SFX scripting.- Importing and exporting card and translation data from our database and working with files sent from external partners. Published Titles: Magic Duels: Origins, Magic the Gathering: Duels of the Planeswalkers 2015, Magic the Gathering: Duels of the Planeswalkers 2014
May 2012 June 2011	Quality Assurance Tester - Stainless Games Ltd. Duties: <ul style="list-style-type: none">- Responsible for ensuring the games we produced were bug free- Involved testing the game, reporting bugs and then retesting these bugs once fixed- Key skills include; attention to detail, creative thinking, strong team skill and good use of initiative Published Titles: Carmageddon iOS, Magic the Gathering: Duels of the Planeswalkers 2013, Magic the Gathering: Duels of the Planeswalkers 2012

PhD Training

- 1st International Summer School on Artificial Intelligence and Games (1-week summer school)
- Research Methods & Skills at the University of York (4-week workshop)
- AI-Driven Game Design at the Queen Mary, University of London (4-week workshop)
- Game Development at Goldsmiths, University of London (4-week workshop)

Academic Activities

Conference Organisation:

- IGGI Conference 2018 - Keynote and Sponsors Chair

Programme Committee Member:

- IEEE Conference on Games 2019
- Foundations of Digital Games 2019

Workshop Organisation:

- Co-organised the Spot the Bot workshop at the IGGI Conference 2018

Programming Languages

Proficient at: C#, Python
Knowledge of: C++, Java, PHP, MySQL, JavaScript, HTML, CSS, LUA
Frameworks: Keras (Tensorflow backend), Unity