Samuel Appleby

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SamuelAppleby

Experience

Teaching Assistant — *Newcastle-upon-Tyne, UK*
Newcastle University — *Sept 2022 – June 2025*

- During my PhD, I was a Teaching Assistant for the School of Computing at my university, demonstrating during practical classes and marking students' coursework.
- Modules: *Fundamentals of Computing*; *Computer Systems Design and Architectures*; *Software Systems Design and Implementation*; *Introducing Contemporary Topics in Computing* and *Computer Applications*.

Junior Network Programmer — *Liverpool, UK*
Lucid Games Ltd — *Apr 2020 – Dec 2020*

- Management and development of the online web service complete with documentation.
- Designing the online matchmaking filtering system for a new PS5 title, *Destruction AllStars*.
- Design and integration of the web service communication with automated systems using Unreal Engine's Gauntlet automation framework.

Education

Newcastle University *(Awaiting Thesis Defence) PhD in Computer Science* — *Jan 2022 –*

- Thesis: *On the Modelling of Temporal Data: Linear Logics in Event Logs and Deep Reinforcement Learning in Real-Time Simulations.*

Newcastle University *MSc Computer Game Engineering* — *Sep 2020 – Aug 2021*

- Dissertation: *Networking Techniques and Strategies to Benefit User Experience in Online Multiplayer Games.*
- **Grade:** Distinction

Newcastle University *BSc Computer Science* — *Sep 2017 – Aug 2020*

- Dissertation: *Develop an AI Agent Using Goal Oriented Action Planning that can Demonstrate Effective Solution Finding in Distinct World Environments.*
- **Grade:** 1:1

Publications

From Camera Image to Active Target Tracking: Modelling, Encoding and Metrical Analysis for Unmanned Underwater Vehicles — Apr 2025
Samuel Appleby, Giacomo Bergami, Graham Morgan 10.3390/ai6040071

SWiMM DEEPeR: A Simulated Underwater Environment for Tracking Marine Mammals Using Deep Reinforcement Learning and BlueROV2 — Dec 2023
Samuel Appleby, Kirsten Crane, Giacomo Bergami A. Stephen McGough 10.1109/CoG57401.2023.10333168

Specification Mining over Temporal Data — Sep 2023
Giacomo Bergami, ***Samuel Appleby*** Graham Morgan 10.3390/computers12090185

Enhancing Declarative Temporal Model Mining in Relational Databases: A Preliminary Study — May 2023
Samuel Appleby, Giacomo Bergami, Graham Morgan 10.1145/3589462.3589491

Quickening Data-Aware Conformance Checking through Temporal Algebras — Mar 2023
Giacomo Bergami, ***Samuel Appleby***, Graham Morgan 10.3390/info14030173

Running Temporal Logical Queries on the Relational Model — Sep 2022
Samuel Appleby, Giacomo Bergami, Graham Morgan 10.1145/3548785.3548786

Public Projects

Pokémon Analyser Tool

- Developed a Pokémon type analyser for game balancing (C#).
- Google API to communicate with online spreadsheet datasets.
- Used by other developers for Pokémon spin-off games.

Skills & Technologies

Expertise: Machine Learning, Reinforcement Learning, Deep Learning, Data Mining, Formal Verification.

Debugging: Visual Studio, Visual Studio Code, PyCharm, Intellij, RStudio, TeXstudio.

Languages: Python, C#, C++, Java, C, R, JavaScript, LaTeX.

Databases: MySQL, PostgreSQL, MongoDB.

Source Control: Git, Perforce, Jenkins.

Web: Html, css, Node.js, Postman.

Game Engines: Unity, Unreal.

Achievements & Certification

Eindhoven University of Technology Prof. Wil van der Aastlt *Process Mining: Data Science in Action* — *Feb 2023 – May 2023*

Stanford University Prof. Andrew Ng *Machine Learning* — *Mar 2022 – July 2022*

Newcastle University *Philip Merlin Prize for Best Dissertation by an MSc Student in the School of Computing* — *Sep 2020 – Aug 2021*

References

Available on Request.