

Samuel Appleby

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Experience

Teaching Assistant *Newcastle University* *Newcastle-upon-Tyne, UK* *Sep 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 *Lucid Games Ltd* *Liverpool, UK* *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 (*Thesis Defence est. 2 Feb 2026*) *PhD 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](https://doi.org/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](https://doi.org/10.1109/CoG57401.2023.10333168) ↗

Specification Mining over Temporal Data *Sep 2023*

Giacomo Bergami, **Samuel Appleby** Graham Morgan [10.3390/computers12090185](https://doi.org/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](https://doi.org/10.1145/3589462.3589491) ↗

Quickening Data-Aware Conformance Checking through Temporal Algebras *Mar 2023*

Giacomo Bergami, **Samuel Appleby**, Graham Morgan [10.3390/info14030173](https://doi.org/10.3390/info14030173) ↗

Running Temporal Logical Queries on the Relational Model *Sep 2022*

Samuel Appleby, Giacomo Bergami, Graham Morgan [10.1145/3548785.3548786](https://doi.org/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, L^AT_EX.

Databases: MySQL, PostgreSQL, MongoDB.

Source Control: Git, Perforce, Jenkins.

Web: HTML, CSS, Node.js, Postman.

Game Engines: Unity, Unreal.

Achievements & Certification

Process Mining: Data Science in Action

Feb 2023 – May 2023

Eindhoven University of Technology

Prof. Wil van der Aalst

Machine Learning

Mar 2022 – July 2022

Stanford University

Prof. Andrew Ng

Philip Merlin Prize for Best Dissertation by an MSc Student in the School of Computing
Newcastle University

Sep 2020 – Aug 2021

References

Available on Request.