

Samuel Appleby

📍 York, United Kingdom ✉ sambuzzappleby@hotmail.co.uk ☎ (+44) 7465 439846

🌐 <https://www.samuelappleby.com> in Samuel Appleby 📱 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 2021 – Dec 2021

- 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 *PhD Computer Science* Jan 2022 – Mar 2026

- 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

Articles

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) [🔗](#)

Specification Mining over Temporal Data Sep 2023

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

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) [🔗](#)

Conference Proceedings

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) [🔗](#)

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) [🔗](#)

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) [🔗](#)

Significant Personal Projects

Confidential Project (ANDROID)

Apr 2026 –

- Android application.
- Compiling 30 years of Pokémon data.
- Covers 9 generations, including 24 version groups and 39 versions.
- Scalable to support all future core Pokémon games (including *Pokémon Winds and Waves*, expected 2027).
- Contains extensive version-specific data.
- Secondary data storage for user teams.
- Works offline.

Arbiter (ANDROID)

Nov 2025 – Feb 2026

- An arbitrage engine for international sports markets inc. 8 countries and multiple markets.
- Multiple databases and querying inc. POSTGRESQL and SQLITE.
- Global API polling.
- Persistent storage for market opportunities.
- User preferences stored in secondary memory.
- Web-hosting with Microsoft Azure (web service and flexible POSTGRESQL server).
- Google Firebase Cloud messaging for app notifications.
- Web workers run jobs continuously in the order of seconds.

Pokémon Analyser (PC) [🔗](#)

Apr 2021 – Apr 2021

- A Pokémon type analyser for game balancing (C#).
- Google API to communicate with online spreadsheet datasets for public use.
- Used for a community-developed Pokémon spin-off game.

Skills & Technologies

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

Debugging: Visual Studio, Visual Studio Code, Android Studio, PyCharm, IntelliJ, RStudio, TeXstudio.

Languages: Python, Kotlin, C#, C++, Java, C, R, Octave, JavaScript, L^AT_EX, HTML, CSS.

Databases: PostgreSQL, SQLITE, MySQL, MongoDB.

Source Control: Git, Perforce, Jenkins.

Web Tech: Google Firebase, Microsoft Azure, 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.