**JACOB ROLPH**

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<https://jacobrolph98.github.io>

# PROFILE

Long-lasting passion for problem-solving and programming, experience with independent learning and research as a hobby as well as collaboration, communication and delegation as part of my studies. Strong attention to detail to produce functional software with readable, extendable code using a variety of design patterns. Quick to learn and willing to ask questions, excited for opportunities to expand my horizons and continue to develop my career in software.

# SKILLS

* Visual Studio & Code, Android Studio, Unity (& DOTS), PyCharm, Eclipse, Neo4j, Git
* Static/dynamic & imperative/declarative programming languages including;
* C#, Kotlin, Java, Rust, C++, Python, PHP, TypeScript, React, MatLab, MySQL, Cypher
* Application of object-oriented, data-oriented and functional principles, design patterns and source control
* Variety of libraries including; TensorFlow, Keras, Pandas, NumPy, Tauri
* Agile & Waterfall methodology, requirement elicitation, conflict resolution
* Test-driven development & Continuous Integration/Development using GitHub Actions

# Employment & Volunteering history

**Self-Employed Part-Time Carpenter’s Assistant Nov 2021 to Present**

* Communicate effectively to pick up and apply new concepts
* Adhere to schedule and ensure completed work is to standard that satisfies client

**Android Application for Dissertation – Content Delivery Sep 2020 to July 2021**

* Elicit functional requirements from client
* Design, implement and test application
* Incorporates Google Sign-in, Drive, and PayPal API
* Browse products, use filters, save and purchase products.

**Jiu-Jitsu Committee - Treasurer Sep 2018 to July 2021**

* Manage funds, purchases and budgeting for university Jiu Jitsu club
* Communicate with other committee members to organize sessions & travel to competitions
* As a committee member and senior belt, assist in teaching novices beginner concepts and techniques

# Projects

**Android Application – Proximity Reminder Sep 2022 to Present**

* Apply skills with problem domain research to find existing comparable solutions
* Clear documentation of functional requirements and design techniques
* Incorporate Google API, and open-source API from GitHub

**Unity Prototypes – 3D FPS shooter & 3D voxel terrain Sep 2021 to 2023**

* Learn how to use Unity and solve problems through online research
* Work around new performance constraints for a smooth user experience
* Discover the performance and architectural limitations of OOP in use cases commonly found in games.
* Deeper knowledge on memory management and how data-oriented programming can be applied using an ECS to optimise cache locality and parallelism.
* Expand on C# knowledge in a new context

**Group Software Project – Zoo Management System Sep 2018 to March 2019**

* Work as a team to plan, delegate and carry out software development lifecycle to a prototype system
* Elicit multiple clients with opposing interests and come to a satisfactory solution using Agile
* Design and implement a function prototype system to present to clients
* Earned HMGCC award

# EDUCATION & AWARDS

**University of Northampton Sep 2017 to Sep 2021**

Software Engineering (BSc) Honours 2:1

**Duke of York Award March 2017**

**Cambridge Academy of Science and Technology – A Levels Sep 2015 to Jun 2017**

(Formerly University Technical College Cambridge)

Computer Science, Mathematics, Physics – B, C, D respectively

**Bassingbourn Village College Sep 2010 to Jul 2015**

10 GCSEs

# REFERENCES AVAILABLE UPON REQUEST