

# Lochlann O'Neill

## Software Development

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As a First-Class Honours graduate of Software Development at Munster Technological University, I am a results-driven professional with a proven track record of continuous skill development, accompanied by a strong work ethic. My time at MTU provided me with invaluable practical experience in utilizing the agile methodology to foster efficient teamwork, streamlined development processes, and rapid problem-solving. Familiar across all stages of the software development cycle, with a preference towards backend development.

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## EDUCATION

**Munster Technological University - BSc (Honours) Software Development**

**Sep. 2018 – May. 2023**

**Grade:** First-Class Honours

**Societies:** Airsoft, Athletics, Gaming, Programming, Skateboarding

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## WORK EXPERIENCE

**Boston Scientific - Electronic and Software Co-Op**

**Jan. 2021 – Sep. 2021**

*Summary: C#, Visual Studio, Excel, Primo, SharePoint, Teams, VNC Viewer 4, Watchdog, Windchill*

- Maintained regular communication with local system owners and external developers of outsourced software to gather sensitive system information.
  - Cleansed and updated data in Primo database by integrating information from factory systems, ensuring its accuracy and reliability for multiple project management SharePoints.
  - Conducted meticulous code reviews of 'in-house' software, diligently adhering to predefined specifications to identify redundant component ID formats for subsequent refactoring.
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## SKILLS & INTERESTS

**Programming:** Java, Python, C, C#, HTML/CSS, Javascript, SQL

**Technologies:** Spring/SpringBoot, Docker, Kubernetes, MongoDB, Node.js

**Misc:** Agile Methodology, REST, Microservices, UX design, Git

**Languages:** English (Fluent), Irish (Elementary), French (Elementary)

**Interests:** Gaming, Hiking, History, Leetcode, Running, Skateboarding, Weight Lifting

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## PROJECTS

**Final Year Project - 3D Video Game Development (83% Year 4)**

*Summary: C#, Unity, Blender, Photoshop, Sony Vegas, Overleaf*

*Github:* <https://github.com/lochlannoneill/INTR8016-FinalYearProject-Unity>

- Developed an immersive 3D video game, utilizing modern technologies such as Unity (C#) and Blender.
- Authored a comprehensive 35,000-word document, outlining the entire development process.
- Delivered an engaging in-person presentation, complemented by an informative poster, a captivating feature video, and a hands-on playable demonstration.

**Portfolio Website - [www.lochlannoneill.com](http://www.lochlannoneill.com) (Personal Development)**

*Summary: HTML/CSS, Javascript, Bootstrap, Cloudflare*

*Github:* <https://github.com/lochlannoneill/website>

- Developed an online portfolio, incorporating responsive design and interactive features to enhance user experience.

### **Frameworks - SpringBoot (93% Year 4)**

*Summary: Java, REST, Spring/SpringBoot, Maven, H2, JPA, JSON, Postman, Lombok, HATEOAS, MockMVC, SLF4J*

*Github: <https://github.com/lochlannoneill/SOFT8020-Frameworks-REST-SpringBoot-JPA>*

- Created a RESTful web service for school enrollment on a H2 embedded database (offices, students, etc.).
- Implemented effective SLF4J logging to enhance system monitoring and debugging capabilities.
- Conducted throughout unit testing on the web service by employing MockMVC, ensuring the functionality and reliability of the service under different scenarios and inputs.
- Incorporated role-based authentication, effectively controlling access to specific resources and limiting responses to only those authorized for certain HTTP requests, ensuring data security and privacy.

### **Microservices - Docker/Kubernetes (77% Year 4)**

*Summary: Python, Docker, Kubernetes, gRPC, Redis, RabbitMQ, Prometheus*

*Github: <https://github.com/lochlannoneill/SOFT8026-DataDrivenMicroservices-Docker-gRPC-Redis-RabbitMQ>*

- Designed and implemented a containerized microservice-oriented video game platform, leveraging Python, Docker, gRPC, and RabbitMQ to facilitate seamless communication and streaming.
- Migrated the system to a K3S environment and devised a robust scaling strategy.
- Performed thorough functional and non-functional testing and implemented a monitoring solution to optimize performance and resource allocation for optimal results.

### **Operating System Engineering - XV6 Qemu (95% Year 4)**

*Summary: C, xv6, Qemu, System calls, Interrupts, FUSE, GlusterFS*

*Github: <https://github.com/lochlannoneill/COMP8051-OSEng-xv6-qemu>*

- Engaged in kernel-level development for the xv6 OS, extending its capabilities through the creation of custom system calls to enhance OS functionality (ps, trace, find, etc.).
- Enhanced the xv6 file system to accommodate larger files, thereby raising file size limits.
- Investigated the application of interrupts in I/O scheduling, FUSE, and GlusterFS.

### **Big Data & Analytics - PySpark & Spark Structured Streaming (100% Year 4)**

*Summary: Python, PySpark, Apache Spark*

*Github: <https://github.com/lochlannoneill/SOFT8033-BigDataAnalytics-PySpark>*

- Formulated SparkSQL queries to compute various statistics and glean insights from the provided dataset.
- Implemented Spark Structured Streaming to conduct real-time data analytics on streamed input data.

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## **REFERENCES**

Available upon request.