

# Nathan Henderson

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## EDUCATION

### University of Wollongong

*Bachelor of Computer Science, Major in Cyber Security*

Wollongong, NSW

*June 2019 – July 2024*

### TAFE NSW

*Diploma of Software Development*

Petersham, NSW

*Feb. 2018 – Nov 2018*

## EXPERIENCE

### Analyst Programmer

*University of Wollongong (IMTS)*

June 2022 – Present

*Wollongong, NSW*

- Developed customised Signout Board Calendar as a Confluence Cloud MERN plugin, with built-in Admin tools and a component based arch.
- Developed and maintained ASP.NET/WinForms applications for health data submission and processing
- Migrated manual IIS deployments to an Azure DevOps based CI/CD workflow for our on-prem test server
- Added Video playback to our static resources site, with chunked uploads, customized Video.js player and FFmpeg analysis during the upload process
- Refactored outdated VB data validation code in order to implement a new health dataset
- Reverse-engineered an undocumented internal user management library to then implement a more dynamic role/privilege system
- Upgraded security on our external facing WinForms apps through moving to hashed passwords and DPAPI app config encryption
- Upgraded security on our ASP.NET apps through CSP implementation and porting jQuery 1 to 3 which involved several deep refactors
- Integrated email notifications with a template system through SMTP2GO's API
- Worked on DevExpress reports in consultation with Clinician stakeholders
- Work in a team environment using Agile lifecycle with daily stand-ups, fortnightly sprints and code reviews managed through Jira

## PROJECTS

### MVNFOManager | C#, Entity Framework, SQLite, Widevine, Avalonia, Git

Jan 2024 – Present

- Built cross-platform .NET desktop application (Avalonia) to manage local music video libraries with auto-generated NFO metadata
- Integrated YouTube Music and Apple Music APIs with hierarchical data flows (Artist → Album → Video) and dynamic image retrieval
- Implemented authenticated download pipeline including Widevine DRM handling for Apple Music streams
- Designed SQLite-based persistence layer and modular UI architecture using third-party and custom components

### YTMusicNet | C#, Python, Git, CodeCov, xUnit

May 2025 – Aug 2025

- Ported dynamic Python YouTube Music client to fully native, strongly-typed .NET library
- Reverse-engineered unofficial API endpoints and parsed complex server-side rendered responses
- Replaced untyped JSON responses with structured domain models and objects
- Implemented authenticated request workflows for account-based access
- Added unit test coverage with xUnit and CI-integrated CodeCov reporting

## TECHNICAL SKILLS

**Languages:** C#, Python, Go, JavaScript, SQL, HTML/CSS

**Frameworks:** .NET/.NET Core, Express.js, DevExpress, Avalonia

**Developer Tools:** Visual Studio, VS Code, Rider, Git, Postman, HTTP Toolkit, Azure DevOps, Docker, CodeCov

**Libraries:** React, Mongoose, Newtonsoft.Json, jQuery, log4net, FFmpeg