

MATTHEW NESBITT

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EDUCATION

McMaster University

Sep. 2022 – May 2026

BEng: Level 3 Software Engineering – 4.0/4.0 CGPA

SKILLS

Languages: Python, Java, C, Bash/Shell Script, SQL, HTML5, Make, LaTeX.

Tools/Technologies: git, Linux, Docker, SQL, Azure blob/GCS/s3, Jenkins, Jira, unittest, JUnit, Maven, spaCy, OpenCV, kivy.

Other Skills: Distributed Systems, Asynchronous Programming, Databases, Cloud Systems, Algorithms, Build Systems, CI/CD.

EXPERIENCE

Software Design Engineering, Intern - Burlington, ON

May 2024 – Aug. 2024

Evertz Microsystems – Async Programming, Build Systems, Cloud storage systems, Intra-cluster communication, Filesystems.

- Improved average repository build times by over **2x** by implementing **build caching** using **Docker layers**.
- Direct-to-cloud video export **streaming** via a **FIFO** resulting in a **13% faster** export & upload process.
- Implemented a **FUSE** (Filesystem in Userspace) to tweak **FFMPEG's** process of writing video files.
- Slashed video upload times by over **6x** to **Azure blob storage** by **chunking & parallelizing** file uploads.
- Collecting & aggregating** usage statistics across **any cluster**, providing **cluster usage stats** at a glance.

IT & Administrative Assistant – Callander, ON

May 2023 – Aug. 2023

Callander Lakeside Medical Clinic – IT Systems, System Standards, IT Protocols.

- Standardized Operating Systems and programs installed on all computers.
- Created new procedures for computer on-boarding, increasing efficiency of setup by **3x**.
- Integrated an Ambulatory Blood Pressure Monitor into the system & created surrounding protocol.

EXTRACURRICULAR

Director of Projects – Hamilton, ON

Jul. 2024 - Current

McMaster AI Society – Leadership, Organization, Hiring.

- Interviewing, hiring** and **on-boarding** Team Leads for the 2024-25 season.
- Work with Team Leads to create **achievable milestones and targets**.
- Work with other members of MacAI leadership to **organize events**, such as attending *CUCAI*.

Project Lead – Hamilton, ON

Oct. 2023 – Jul. 2024

McMaster AI Society – Python, spaCy, AI/ML.

- Spearheaded *NoteFlow*, an **AI based** summarizer using **spaCy** pipelines, **T5 transformers**, and the **TextRank** algorithm.
- Contribute to, while also **managing** and **overseeing** the development of *NoteFlow*.
- Work with Director of Projects to ensure project **follows timelines** and **meets milestones**.

PROJECTS

Git-auto-commiter (GAC) – Python, gevent, Package Creation and Maintenance

- A CLI tool for **automatically detecting changes** in a git repository, and committing them on a **scheduled basis**.
- Back-end daemon managed through **systemd** uses **gevent** to monitor **up to 50** repositories **concurrently**.
- Available on **Fedora** and **Debian** (and its derivatives) as **RPM** and **DEB** packages.

Spotify Playlist Tools – Python, Kivy, Spotify API

- Automation of Spotify playlist creation in Python with multiple **automatic filtering options**.
- Seamless integration** with Spotify using their **API** and **OAuth** system.