Matthew Nesbitt

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Education

McMaster University   *Sep. 2022 – May 2026*

Bachelor of Engineering: Level 3 Software Engineering (Co-op) – CGPA: 3.9/4.0
- **Courses:** Database Design, Concurrent Systems, Data Structures and Algorithms, Software Design and Requirements

Skills

Languages: Python, Java, JavaScript, C/C++, Bash Script, SQL, HTML, CSS, LaTeX

Technologies: React.JS, Node.JS, gevent, kivy, OpenCV, spaCy, Junit, unittest

Tools: git, Linux, Docker, Jenkins, Jira, MS Office, Azure Blob Storage, GCS, Amazon S3, Make, rpm, dpkg, UML, Sonarqube

Experience

Software Design Engineering, Intern - Burlington, ON   *May 2024 – Aug. 2024*

Evertz Microsystems – Python, gevent, Docker, Jenkins, Make, Linux, Amazon S3, Azure Blob Storage, GCS, dpgk, cron
- Helped develop the **DreamCatcher** live replay system, in-use by **major broadcasters across the globe**
- 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 integrated video upload times by over **6x** to **Azure blob storage** by **chunking & parallelizing** file uploads

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 **novel devices** 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
- Expanding the projects division by **40%**, and orchestrating a **team of 30+** to deliver highly advanced, impactful projects
- Work with other members of MacAI leadership to leverage a **~$4,000** budget to bring MacAI teams to *CUCAI 2025*

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 coordinating a tight knit **team of 6** to work on the development of *NoteFlow*
- Present *NoteFlow* at *CUCAI 2024* (Canadian Undergraduate Conference for AI) in Kingston, Ontario

Projects

Git-auto-commiter (GAC) – *Python, gevent, rpm, dpkg, systemd, package creation and maintenance*
- Powerful, automated, repository management hidden behind a **simple CLI**
- Back-end daemon managed through **systemd** uses **gevent** to monitor up to **50** repositories **concurrently**
- Available on Fedora and Debian (and derivatives) as **RPM** and **DEB** packages

ClearSignal – *Python, kivy*
- A redistributable app making communication more accessible for those in their **greatest time of need**
- Makes use of a USB keypad with three distinctively textured keys to operate the UI, which provides access to yes/no indicators for quick responses and a **virtual keyboard** for detailed thoughts