Max Burdett

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Full-stack and systems software engineer with 4+ years of experience across embedded firmware, cloud-native apps, and full stack web apps. Passionate about building scalable infrastructure and leading impactful technical projects.

Education: **B.S. in Software Engineering** from the **Rochester Institute of Technology**

Work Experience:

Biamp – Firmware Engineer: Core Technologies Team   Jan 2024 - Dec 2024
Started as a co-op and then became a part time member of the Core Technologies team.
- Created Network Discovery Tool using **Python** with **PyQt5** for discovery and modification of Tesira devices through a GUI which was not previously available on Linux platforms. **Containerized** project using **PipEnv** and **Pyenv**. This tool provided **automated binary flashing**, monitoring for dozens of system audio channels, and the only software method for factory resetting
- **Developed GPIO kernel drivers** to add new required functionality to the existing drivers for the USB subsystem
- Implemented event listeners and receivers for USB subsystem and updated **Device Tree** to support new hardware features
- Implemented internal tool for managing layer 1 switches, connected to a **MongoDB** database for configuration storage with a custom **Python API** for integration with automated unit and regression tests

RIT SHED Makerspace - Software Lead   May 2023 - Aug 2024
Working for the new RIT SHED Makerspace leading a team of software engineers creating systems needed for makerspace operation.
- Led development of user management, training, and access control software with hundreds of daily users
- Led implementation of new features using **MUI, React, ExpressJs, GraphQL, NodeJS, Knex.js, PostgreSQL**
- Deployed access control software on **Heroku** using **CI/CD Pipeline** powered by **GitHub deployment**
- Created custom authentication boxes to control various machines and workstations with custom software for access control
- Integrated RIT internal **Shibboleth SAML** authentication and utilized other RIT internal APIs for student account tracking

WITR 89.7 – Internal Developer   Oct 2022 – Aug 2024
Working for the WITR 89.7 radio station as an internal developer assisting development of their website and creating internal tools for monitoring and logging.
- Utilized **ReactJS, TypeScript, Sass, Java, and Spring Boot** stack to create a stream playback tool
- Containerized project with **Docker** and deployed applications to custom Proxmox virtual environment
- Created an internal playback tool for engineering and programming departments to listen and analyze DJ samples, interviews, and DJ shows on both WITR 89.7 FM and underground

American Axle & Manufacturing - Electronic Controls Software Rotational Co-op   May 2022 – Dec 2022
Collaborated with a large international **ASPICE** team developing embedded **AUTOSAR ASIL** rated software. Worked under the Technical Manager & Architect with the goal of updating, automating the maintenance of, and creating new processes for artifacts and artifact generation.
- Updated architecture models in **MATLAB** and **Simulink**
- Automated the collection of data to create **ARXML** files
- Developed Electric Controls Unit Integration testing scripts using **CAPL** with **Vector CANoe**
- Implemented **VBA** scripts in Excel to quickly deploy supporting scripts to development team
- Utilized **IBM EWM** for source control, project requirements, and task tracking

Open Source Projects:

Qilletni Package Manager(qpm) – Lead Software Engineer   Feb 2024 - Present
Built a semver-aware package manager for the Qilletni language, featuring a Java-based CLI and RESTful metadata/signing service
- Developed CLI with **picocli** for installing, resolving, publishing, and locking packages
- Developed the **QPM Signer/Metadata API**, a RESTful service handling package metadata operations and digital signature verification to ensure integrity
- Engineered a recursive dependency-resolution algorithm which uses semantic versioning to select compatible package versions
- Implemented lockfile generation and validation to enforce reproducible builds and consistent project versioning

educe.club – Technical Project Manager   Aug 2024 - Present
Oversaw development of a knowledge management app with daily users, balancing agile leadership and full-stack engineering. Led standups, retrospectives, and customer demos while contributing to frontend architecture, AWS infrastructure, and database migration.
- Facilitated **agile** ceremonies, documented team progress, and tracked metrics including sprint velocity and bug resolution ratios
- Migrated backend from NoSQL to **AWS RDS** and **automated CI/CD pipelines** with **AWS Amplify** and **GitHub Actions**
- Refactored frontend from MUI makeStyles to modular **SCSS** with runtime theming for cleaner and customizable UI styling
- Upgraded knowledge cards to support embedded image and video content, improving user expressiveness and platform value

Food In Sight – Technical Project Lead   Aug 2024 - Dec 2024
Built a cloud-based food scanning app to help users identify allergens and dietary restrictions using AWS cloud technologies and a custom-trained **AWS Rekognition** model. Acted as the **technical project lead** making development and infrastructure decisions.
- Created a serverless backend using **AWS Textract** and **AWS Translate** for text extraction and translation from food labels
- Integrated **AWS Lambdas**, **API Gateways**, **S3 Buckets**, and **DynamoDB** for scalable data movement, storage, and processing
- Used **Terraform** for **Infrastructure as Code** to automate the deployment of the serverless backend, allowing all infrastructure to be provisioned with a single command, optimizing the cost, scalability, and extensibility of the project
- Built frontend with **React**, **TypeScript**, and **Vite** for efficient development and fast user experience