Mobile: +1 (248) 550-1410   **Philip Mai**   philip.e.mai@gmail.com

Skills

SW Development:
Python, C/C++, Bash/Zsh, Git, Docker, Powershell, Batch, Javascript, Java, ROS, R, CAPL, REST APIs, Gitlab-runners, Github-actions, Groovy, Klipper, MATLAB, Asyncio, Ollama

Tools:
Gitlab/Bitbucket/Github, Agile, AWS, WSL2, Django, Jira, Confluence, Codebeamer, RTMaps, LLMs, RobotFramework, 3D Printers, CANoe, Fusion360, Jenkins, TK/TKinter/customTKinter, Conan, Bazel

Operating Systems:
Linux (embedded, headless & headed), Windows (10/11), MacOS, Raspbian

Certifications: Certified Scrum Product Owner (CSPO)
Website: www.philipmai.dev

Languages:
English, German (fluent), Spanish (fluent), Swedish (fluent)
Citizenships: US (able to apply for Secret Security Clearance), German, Swedish

Work Experience

Accenture   **Madison Heights, MI**
Associate Manager Software Engineering - ADAS/AD, Business Development   *Sep 2022-Present*

- Direct manager to 6 people in addition to managing teams of 10+ people (Accenture/client) on projects, and liaising between various client managers and Accenture. Led teams of up to 20 people during BD spanning multiple fields of engineering and manufacturing.
- Sold $16.5M+ in projects to existing and new clients including US, Japanese and German automotive suppliers/OEMs. Won extensions for 2 projects totaling more than $500,000.
- Unified end to end SW packaging and delivery pipeline, automating previously manual steps involved in compiling, packaging, signing and delivering ADAS/AD SW packages to stakeholders across US Auto Manufacturer's ADAS/AD BU and suppliers.
- Redesigned automated build and deployment of Docker containers, parallelizing build and reducing size/complexity of 60+ docker containers during upgrade from Ubuntu 18.04/20.04 base image to Ubuntu 22.04/24.04, while maintaining functionality.
- Implemented Polyspace Codeprover/Bugfinder quality checks within Github Actions to minimize code defects and MISRA violations, reduced run-time and CI cost through use of all available cores and running only of files within pull-request.
- Architected & implemented a Warehouse Management System built using asynchronous Python and Django allowing for the automated control of PLCs and PutToLight devices, maintaining database records, and providing employees an intuitive UI.
- Designed & implemented a unified Python/C++ ROS based data logging system for embedded and networked devices. Implemented GUI in Python using customTKinter to allow for fast and simple building of complex user interfaces, based on the needs of customers. Developed custom widgets interfacing with ROS for application allowing for collecting data from an arbitrary number of sensors of any type.
- Created end-to-end cloud based CI/CD pipeline for automated test case creation saving more than 70% manual effort through automated execution, reporting of results, traceability and creation of test cases in Zephyr Scale. Architected & implemented the solution in Python, Powershell and Groovy, which allows for modular addition of testing frameworks and endpoints to store results/test cases through standardized base classes and interfaces. Conducted code reviews.
- Implemented CI/CD pipeline template and adapted this to 9 current projects (gitlab/github), standardized Git and development environment through containerization & selection of linting/formatting tools, and documented best practices.
- Led initiative to standardize projects, IDE, linters, formatters, git configuration/submodules & branching/merging strategies within the team to save 5hrs/week/person and streamline the development process.
- Developed low-cost, modular video acquisition sys. with 16+ cameras with minimal hardware reqs using ROS in Python & C++.

umlaut - part of Accenture   **Madison Heights, MI**
Senior Software Engineer – ADAS/AD, Business Development   *Mar-Sep 2022*

- Delivered projects totaling $600,000+.
- Managed requirements, traceability, and coverage of L2+ autopilot feature for a SW supplier of Chinese OEM.
- Led development of a Python/Raspberry Pi based vehicle security system PoC. Implemented object detection and classification, IMU incident detection, AWS connectivity and user text notification in ROS, using Python, Docker, Bash, and C++.
- Won and led development of visual driver notification system for pedestrian and vehicle detection.

Software Engineer II – SW/Systems Engineering, Business Development   *Nov 2021-Mar 2022*

- Developed system requirements in Codebeamer for ECU at tier 1 supplier resulting in a contract awarded by large OEM.

Software Engineer – SW Engineering, ADAS/AD, Rapid Prototyping   *Jan 2019-Nov 2021*

- Managed team and delivered $200,000 LiDAR benchmarking project, coordinated parallel integration tasks with hardware and vehicle retrofit teams, and was the primary contact for all client communications.
- Implemented modular, low-cost 16+ sensor recording system for a large German OEM using Python & C++.
- Developed an efficient driver for RTMaps to parse incoming packets from LiDARs for data collection and visualization.
- Researched and prototyped embedded multi camera recording system based on Nvidia Jetson Nano/TX2.

Education

University of Michigan   **Ann Arbor, MI**
B.S.E. Industrial and Operations Engineering, Minor Computer Science   Honors: Cum Laude, Dean's Honor List