Alexandre Pawlicki Maule

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EDUCATION

University of Alabama at Birmingham , *M.S. Computer Science* — *May 2026*
Eastern Michigan University , *B.S. Mathematics and Economics* — *December 2019*

SKILLS

Technical Skills: *Python, Java, Javascript, SQL*
Languages: Fluent in English, Portuguese, and Polish.

EXPERIENCE

University of Alabama at Birmingham, *Teacher Assistent* — Aug 2025 - Present
- Review students' algorithms and **provide targeted feedback** on debugging, efficiency, and code quality.
- **Explain complex algorithmic concepts** in clear, accessible terms to support understanding for a class of 30 students.

SOFTWARE ENGINEERING PROJECTS

Image Feature Detection & Matching — October 2025 - Present
- Implemented a **computer vision pipeline** based on the **LIFT** (Learned Invariant Feature Transform) architecture to detect and describe keypoints in images, enabling robust feature matching for image stitching and segmentation tasks. Used **python** tech stack and **OOP**.
- Leveraged **LLM (ChatGPT)** as an aid for code comprehension, refactoring, and debugging.
- Applied standard software practices such as: source control (**GitHub**), pull requests, and code reviews. As we are a team of four implementing various image processing features.
- Collaborated in a four-person development team using **modern software engineering practices**, including **GitHub-based** source control, structured **pull requests**, and **peer code reviews** to ensure quality and maintainability of the codebase.
- Utilized **large language models (LLMs)** such as ChatGPT to accelerate development—supporting code comprehension, guiding refactoring decisions, and assisting in debugging.

Cloud Based File-Sharing — July 2025
- Integrated a Flask-based (**Python**) client application with AWS services (S3, Lambda, SES, EC2) to implement a secure file-sharing workflow using pre-signed URLs and automated email delivery.
- Configured **IAM roles and policies** to control access between application components and cloud resources.

User Stories for Extreme Programming Web App — May 2025
- Implemented a project-tracking web app that manages story cards, iterations, and task cards.
- Applied **object-oriented programming** and leverage **agile methodology**
- Practiced **test-driven development** by writing comprehensive **unit tests** to ensure correct domain logic and **prevent regression** during feature expansion.

Traffic Accidents - *Data Analyst Bootcamp* — June 2023
- Retrieved and analyzed traffic accident data from the Kaggle API, leveraging **Flask** framework and Pandas **python** lib as part of the stack to implement a comprehensive **statistical analysis**.
- Implemented source control such as **Git** and **GitHub** to efficiently manage contributions and streamline group workflows.
- Designed and deployed a webpage as part of the team using **Javascript**, integrating interactive data visualizations to present insights effectively.

Movie Investment - *Data Analyst Bootcamp, Michigan State University*   March 2023
  ● Developed an investment model to predict potential future successful movies using **machine learning models**. For the development stack scikit-learn Python modules were used
  ● Leveraged **SQL** queries to thoroughly analyze and pre-process Kaggle-sourced data in PostgreSQL for the supervised **ML Model training.**

Cryptocurrency & Stock Market
  ● Conducted comprehensive data analysis on S&P 500, Gold, Oil, and Bitcoin data utilizing **Python**, Matplotlib, and **GitHub** to identify correlations and uncover strategic investment opportunities.
  ● **Collaborated with the team** to allocate responsibilities and streamline task distribution, significantly enhancing project organization and accelerating progress.

PROFESSIONAL EXPERIENCE AS SOFTWARE QUALITY INSPECTOR

Cognizant, Remote - *Sr. Process Executive - Data*   March 2023 - May 2025
  ● **Collaborate with an international team** to support and maintain the expanding self-driving car fleet, ensuring consistent operational readiness.
  ● **Coached junior** associates about sensor calibration specifications, leading them to improve their accuracy by at least 20%
  ● Spearheaded and **developed an automated** solution using Apps Script, **accelerating** data loading by **300% and saving the team 2 hours** daily to focus on high-priority tasks.
  ● **Automated lower-priority data collection** using an Apps Script program, reallocating time toward manual, high-impact responsibilities.

Artech, Remote - *Sr. Software Quality Operations Associate*   February 2021 - January 2023
  ● **Collaborated alongside a team** in validating Lidar sensors for autonomous cars, enabling consistent data acquisition to evaluate self-driving software performance that identifies areas for improvement.
  ● Handled the sensor calibration for the Rider Only fleet, **ensuring 90% availability** and operational readiness of the vehicles.
  ● **Managed task assignments for a 10+ member team**, ensuring all tasks were completed within SLA through effective communication and collaboration.