Emanuel André Medina Araujo

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EDUCATION

Technical University of Munich   Munich, DE
Bachelor of Science in Computer Science, Application Area in Physics   *Oct. 2020 – Apr. 2026*

Herzog-Christoph-Gymnasium   Beilstein, DE
Abitur, Received MINT-EC certificate with distinction   *Sep. 2012 – Sep. 2020*

EXPERIENCE

Working Student Software Engineer   Nov. 2024 – Present
Vector Informatik GmbH - VSceneCreator (3D OPENDrive Editor)   *Munich, DE*
- Helped develop the 0.1 alpha version of VSceneCreator as a Unity application in C#. Suggested, designed, implemented and wrote tests for core features and bugfixes in close collaboration with Product Management.
- Introduced an read-only "Explore Mode" for users without a paid license, by creating an overview tree and a context-sensitive explore tool tip system and restricting access to features that manipulate the file.
- Improved edit mode switching performance by restructuring the base model to enable for lazy loading for non-essential and non-visible objects resulting in up to 70% faster switch times.
- Optimized file loading through batched object creation and a more detailed progress bar replacing application freezes resulting in 10% faster load times, reduced memory usage and a better User Experience.

Working Student Software Developer   Mar. 2021 – Oct. 2024
Vector Informatik GmbH - DYNA4 (Simulation environment for virtual driving tests)   *Munich, DE*
- Developed a REST API using FastAPI and PostgreSQL to store data from learning management systems
- Developed a full-stack web application using Flask, React, PostgreSQL and Docker to analyze GitHub data
- Explored ways to visualize GitHub collaboration in a classroom setting

PROJECTS

Gitlytics | *Python, Flask, React, PostgreSQL, Docker*   June 2020 – Present
- Developed a full-stack web application using with Flask serving a REST API with React as the frontend
- Implemented GitHub OAuth to get data from user's repositories
- Visualized GitHub data to show collaboration
- Used Celery and Redis for asynchronous tasks

Simple Paintball | *Spigot API, Java, Maven, TravisCI, Git*   May 2018 – May 2020
- Developed a Minecraft server plugin to entertain kids during free time for a previous job
- Published plugin to websites gaining 2K+ downloads and an average 4.5/5-star review
- Implemented continuous delivery using TravisCI to build the plugin upon new a release
- Collaborated with Minecraft server administrators to suggest features and get feedback about the plugin

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R
Frameworks: React, Node.js, Flask, JUnit, WordPress, Material-UI, FastAPI
Developer Tools: Git, Docker, TravisCI, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: pandas, NumPy, Matplotlib