

# Daniel Meyer

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\*References available upon request.

## Work Experience

<b>Software Development Engineer (Powertrain)</b>	<b>Mercedes-Benz R&amp;D North America</b> Long Beach, CA	<b>Feb 2025 - Present</b>
<ul style="list-style-type: none"><li>• Create web tools for Powertrain, Durability, and Emission development teams using React JS for the frontend and Django for the backend.</li><li>• Create and modify MATLAB scripts to make them compatible with MATLAB Engine for Python and multi-threading.</li><li>• Create a native desktop application for the Driveability team using ElectronJS + React Typescript + Flask.</li><li>• Rewrite existing Python tools to support multi-threading/processing.</li></ul>		
<b>Software Engineer</b> ADAS & Infotainment Team	<b>Fisker Inc.</b> La Palma, CA	<b>Sep 2021 - Jul 2024</b>
<ul style="list-style-type: none"><li>• Develop internal tools for the engineering, design, and validation teams to use for development and testing.</li><li>• Integrated Unity into the Fisker Ocean Infotainment for ADAS visualization.</li><li>• Led performance logging, analysis, and improvement efforts for Infotainment.</li><li>• Overhauled CAN-bus backend for the HMI platform to support multithreading using a data-first design approach.</li><li>• Spearheaded the architecture and development of the company's next generation Infotainment platform to replace the existing one on customer vehicles as well as be used on all future vehicles.</li></ul>		
<b>Software Tester</b> Unreal Engine Team	<b>Epic Games</b> Cary, NC	<b>Jun 2021 - Sep 2021</b>
<ul style="list-style-type: none"><li>• Executed test cases and wrote reports for C++ backend health.</li><li>• Executed test cases and wrote reports for builds for Windows, Linux, Xbox, Switch, and Playstation platforms.</li><li>• Collaborated with feature owners to resolve bugs in Unreal Engine 4 and 5.</li><li>• Verified and ensured proprietary files were not present in releases.</li></ul>		
<b>Game Developer</b> Companion Species Team	<b>Green Science Games</b> Davis, CA	<b>Jun 2020 - Jun 2021</b>
<ul style="list-style-type: none"><li>• Lead development on the educational mobile game, Companion Species.</li><li>• Programmed in Unity and held weekly Agile meetings to update team goals and check on team member progress.</li><li>• Worked directly with the game's director to ensure their vision for the game was made reality.</li><li>• Designed the core gameplay systems and backend for the Asteroid Garden and Aphid Defense game modes.</li></ul>		
<b>Virtual Reality Developer</b> Virtual Lab Team	<b>CSU - San Bernardino ATI</b> San Bernardino, CA	<b>Aug 2019 - Aug 2020</b>
<ul style="list-style-type: none"><li>• Developed 2 projects for the Virtual Reality lab: Ambrosia and the Virtual Lab template.</li><li>• Ensured the Ambrosia project met the needs of the Archaeology department and provided a comfortable experience for users who were new to Virtual Reality.</li><li>• Worked closely with professors and field experts to ensure accuracy and educational value.</li><li>• Created a pipeline for multiplayer Virtual Reality experiences in Unreal utilizing a central server with multiple clients.</li></ul>		

## Education

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| • <b>Bachelor's in Computer Systems &amp; Information</b> , California State University - San Bernardino | <b>2014 - 2020</b> |
| • <b>Minor in Mathematics</b> , California State University - San Bernardino                             | <b>2014 - 2020</b> |

## Technologies and Languages

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- **Languages:** C, C++, C#, Python, Java, Kotlin, Objective-C, Swift, x86 Assembly, JSON, SQL, Javascript, Typescript
- **Technologies:** OpenGL, HLSL, DirectX, Git, Perforce, Android Apps, Android Automotive, Android OS, iOS
- **Software:** Unity 3D, Unreal, MATLAB, Vector CANoe, Blender 3D, RenderDoc, Jira, Confluence, Jama, TestRail
- **Other:** SCRUM, Waterfall, Data Structures and Algorithms, REST, MVVM
- **Frameworks:** React, Next.JS, Angular, Django, Django REST, Plotly, SDL3

## Projects

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### Flightcase Inc.

**Project:** Flightcase HMI Platform

**Objective:**

- Created a next generation automotive HMI platform that reduces development time from years to months for a fully functional automotive HMI.
- Created the architecture for the platform with an emphasis on componentization to reduce dependencies, increase modularity, and provide faster development time.
- Integrated platform demo into a customized Android Automotive OS system image.
- Created and deployed system image builds for emulator, Raspberry Pi, and tablet development.

### Fisker Inc.

**Project:** Next Generation HMI Platform

**Objective:** Spearheaded effort to create an Android Automotive OS Infotainment platform to replace the existing one. This would be used for the current Ocean program and all future vehicles while reducing the reliance on external SDKs.

- Reduced the number of external framework/api dependencies and moved the codebase in-house.
- Designed and developed the backend to be asynchronous and multi-threaded.
- Ensured the frontend remains entirely stateless through proper architecture and the use of Jetpack Compose.
- Designed the frontend to be modular to ensure components such as HVAC, Media, Maps, etc. can be reused with different themes and layouts based on individual vehicles and trims.
- Integrated a new HVAC backend to improve stability and performance.
- Developed a custom bluetooth solution that integrated HFPC, PBAP, and MAP protocol provided by Android automotive.
- Ensured the new app was backward and forward compatible (existing customer vehicles can be upgraded but also ready for new hardware and Android Automotive OS versions).

### Fisker Inc.

**Project:** Fisker Ocean

**Objective:** Create and integrate the infotainment software for the Fisker Ocean Electric SUV.

- Integrate Unity3D in a production vehicle.
  - It is used for ADAS visualization in the Central Display.
  - Wrote a custom VHAL to Unity bridge that passed CAN through the Android layer to Unity
- Improved system performance and led Infotainment performance related efforts
  - Overhauled the software backend to improve CAN BUS read/write times from 300-500ms per CAN signal to 0.3-0.8ms per CAN signal.
  - Rebuilt the Infotainment software architecture to be multithreaded instead of single thread leading to 2-3x performance uplift.
  - Reduced garbage collection by 10x through reduction of logging, loose variables, and logic improvements.
- Used Vector CANoe to debug, record, and monitor all vehicle ECUs.
- Developed internal tools for software installation, testing, benchmarking, and development.

- Performance logger and graph generator that were used to analyze performance deltas between releases.
- Python converter and playback tool for .BLF and .ASC logs in Unity
- Shell and Batch installation scripts for installing engineering builds to target hardware and vehicles.
- XCode application for Design team to display and capture images on the vehicle.

## **Green Science Games**

**Project:** Companion Species

**Objective:** Develop a mobile game in Unity that focuses on teaching children (age 4-12) about green sciences and alternative energy. The game will be packaged with a new online learning platform called Alter Learning. It features a tower defense game mode, an open sandbox mode for players to create custom gardens, and an Augmented Reality sandbox game mode.

- Created the foundation of the tower defense game mode and worked with the artist directly to create and integrate art assets.
- Developed back-end loading and AR integration.
- Created the store and inventory systems with ability to purchase items from a store, place items and return them to the player inventory.
- Integrated real world AQI and Weather data that affects in-game weather and environment.
- Optimized the game for mobile platforms, leading to a 75-80% increase in performance.

## **California State University, San Bernardino - Academic Technologies & Innovations**

**Project:** Virtual Lab Template

**Objective:** Create a virtual reality lab template that can be used to develop virtual labs for staff. The template serves as a way for future developers for the ATI VR Lab to be able to make Virtual Labs within a short time (< 2 weeks) frame, on demand for professors of different departments. The template had to be highly flexible and modular to account for the different departments at CSUSB.

- Supports standing and room scale VR depending on the need.
- Created a new interaction system and control handler that allows for both hands to be able to teleport and interact with world objects.
- Created an Interactive Tablet system that gives students lab information, texts, and images in-game. It also supported multiple choice questions for testing student knowledge that is then saved and exported via JSON for grading.
- Integrated fluid simulation to allow for the chemistry department to experiment with chemical mixing.

## **California State University, San Bernardino - Academic Technologies & Innovations**

**Project:** Project Ambrosia

**Objective:** Create a virtual reality experience in Unreal Engine that will introduce students to archeology through Virtual Reality and Multiplayer by entering the world of Ambrosia to find possible dig sites and identify artifacts.

- Created custom Virtual Reality interaction and movement system that features slow walking instead of teleporting due to the need to perform transactional surveys.
- Multiplayer was built around up to 4 players connecting to a dedicated server with proper object, character, and movement replication.
- VR and Multiplayer functionality were created in C++ with some UI elements in Blueprint.
- Imported 3D scanned models of real artifacts for students to find.
- Utilizes Steamworks SDK integration for multiplayer integration and matchmaking.