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## Languages & Technologies

- Core languages: Dart, Java, Python; others include: C/C++, C#, Lua, Javascript, Typescript, PHP, SQL
- Frameworks used include: Flutter, Swing, Kivy, JavaFX, .Net, LAMP, Angular
- Extremely quick-learning, with 10+ years of personal experience. Strong real-time, mobile, applications, and multi-threaded background, and both self-taught *and* formally-educated.

## Personal Projects of Note

- (Current): Cross-platform game engine in Dart & Flutter with a custom microservices architecture
- Component-based GUI framework for use in Source Engine with event handling and visual designer
- External ballistics library for Source engine, optimized for low runtime overhead and accuracy, using both public and purpose-designed 3d transformational algorithms, AI tuning and differential equations
- Embedded & robotics simulation in game engines, recreating vehicle components down to message bus & PID level, working with actual physics and customized control algorithms (2012-2019), often integrating with web services and frameworks for visualization and monitoring

## Education

University of Maryland Global Campus (2016-2020, 3.4 GPA) – Bachelors in Computer Science:

- Worked in team using Agile & Scrum to build cross-platform roadwork safety mobile app in Python
- Classes excelled in include: C/C++ and Java, software architecture, technical writing, multi-threaded programming, databases, operating systems, algorithmic analysis & design, and computer graphics

## Work Experience

Shafer Consulting Services, LLC – Software Engineer (2022):

- C# development and documentation to assist in business processes
- Created RPA systems in UiPath to aid in client process automation
- Coordinated with team to ensure successful development and deployment for client

Independent Consulting (2018-2022):

- Designed and built frontend & backend system to take real-time telemetry from Arduino & other embedded robotics, to be visualized & processed with C, Python, Matplotlib, Pillow, and Flask for client
- Developed algorithms for multi-threaded system in Java & C for sim actuator control for startup
- Built ground-up reliable internal-use tool mobile apps in Flutter & Python for clients

RK&K – Traffic Technician (2014-2020):

- Produced Python code to automate routine internal tasks
- Fieldwork for civil engineering projects, land surveying & GIS, traffic surveying, wildlife impact survey