

EMPLOYMENT

Senior Software Engineer (remote) **Capital One** **May 2017 - Present**

- Architected MVVM network security dashboard with HTML5, LESS, JavaScript, Knockout, D3, Requirejs, Grunt, and Node.
- Overhauled dashboard - which drives risk decisions - with Vue, TypeScript, and Webpack, enhancing live data capability.
- Orchestrated Lua pipeline to pull disparate data, saving manual analyst time and providing regulators a single source of truth.
- Automated several teams' data extraction using Lua, JavaScript, sh, scraping, batch, or Powershell depending on the project.
- Established CI/CD pipelines for our projects run utilizing Docker, Jenkins, Artifactory, EC2, S3, and GitHub hooks.
- Mentored teammates in programming and debugging. Owned technical requirements and led design sessions across projects.

Senior Software Engineer (remote) **Packetsled** **Jul 2016 - Apr 2017**

- Architected MVVM product with HTML5, LESS, JavaScript, Knockout, and D3 in a Requirejs, Grunt, and Jenkins pipeline.
- Owned technical requirements and product UI design. Helped drive prioritized road map around customer needs.
- Created custom Monaco based web IDE, enabling users to edit threat detection scripts in real time on remote network sensors.
- Developed custom file tree binding in Knockout that consumed file metadata from a RESTful Node middleware API.
- Wrote endpoints for an nginx and Nodejs file metadata API backed by MongoDB/Mongoose and documented with Swagger.

Technical Consultant **Aquilent** **Jun 2014 - Jul 2016**

- Created RESTful Node.js API with MySQL/Sequelize and Apache for tracking offices that assist in Healthcare.gov signup.
- Implemented database migration from Socrata to MySQL with Promises in Node.js for 86,000 records used in the above API.
- Led team of 4 on a 508 compliant site using HTML5, CSS, Angular, Ruby, JavaScript, Grunt, Jekyll, Vagrant, and Jenkins.

Research Assistant **UMBC Lab for Anthropogenic Landscape Ecology** **Aug 2014 - Apr 2015**

- Built portable computer vision AMI, facilitating research collaboration. Fixed C/C++/Python based bugs before publishing.
- Developed new features for OpenGL 3D point cloud visualization using HTML5, JavaScript, PHP, MySQL, and GLSL.

Senior Consultant **Synaptic Advisory Partners** **June 2013 - May 2014**

- Designed and built Salesforce application in SOQL and Apex for international university. ETL migration from Lotus Notes.

SIDE PROJECTS

- **Flores (2017-):** Hobbyist C/C++ game engine for an unannounced project.
 - Setup OpenGL pipeline without library support. Includes custom debugging capabilities. DearImgui integration for UI.
 - Developed asset pipeline to automatically combine and pack images in custom file format to efficiently load resources.
 - Wrote custom linear, stack, and double stack memory allocators from scratch. Unit tested with UnitTest++.
 - Hooked up OS functionality to engine with C and Objective-C for input, audio, event handling, and windowing.
- **Thoth (2016 -):** Ray tracer implemented in C/C++, stb, and CMake.
 - Ray-Octree intersection based on algorithm from the 2000 Revelles, Ureña, and Lastra paper using C++ templates.
 - Custom data structures for a more granular level of control for memory allocation. Unit tested with UnitTest++.

EDUCATION

- **Georgia Institute of Technology:** (Enrolled) M.S. in Computer Science. Evening classes **Spring 2019 -**
- **University of Maryland, Baltimore County:** B.S. in Computer Science - Game Development track **Spring 2012 - Fall 2015**
 - Lead programmer on team of 8 building a 3D Unreal Engine game in C++ for a Capstone.
- **University of Maryland, College Park:** B.A. in Economics and Middle East History **Fall 2004 - Spring 2008**

LANGUAGES AND TECHNOLOGIES

- **Languages:** C(99), C++(11), Lua, JavaScript(ES6/Typescript), sh, batch, Powershell.
- **Web:** HTML5, CSS3, less, Sass, Hugo, Zola, Jekyll, Grunt, Webpack, Requirejs, Vue, Knockout, D3
- **Databases:** MySQL, Postgres, MongoDB

- **DevOps:** Jenkins, Terraform, Docker, AWS
- **Libraries:** OpenGL(4.x), DearImgui, stb, vld, UnitTest++
- **Tools:** Git, Visual Studio, Vim, RenderDoc, CMake, ImageMagick,
- **Platforms:** Windows (Win32 API), Linux, OS X (Cocoa API)