# Alexander Neville: Software Engineering and Computer Science

www.alexanderneville.com | (805) 901-6155 | alexcn711@gmail.com | github.com/masqueradeofsilence

## Education

**M.S. in Computer Science**: **Visual Computing**, Brigham Young University | GPA: 3.98*, 2020–2024*
- **Thesis:** *Foam Fraction Flow* – Bubble simulation algorithm in C#/Unity that simulates 5 types of foam.

**B.S. in Computer Science**: **Animation Emphasis**, Brigham Young University | *2015–2019*
- **Minors:** Mathematics and English: Creative Writing

**President:** Theme Park Engineering & Design Club *2018 – 2024*
**Member:** Cybersecurity Student Association *2021 – 2024*
**Certifications:** Certified Secure Developer, Google IT Support Professional Certificate

## Professional Experience: Full-Time

**Geospatial Software Engineer II**, **JSI Engineering** | Nephi, UT (Hybrid) | *Feb 2024–Present*
- Implemented offline functionality for a field-deployed iPadOS app using ArcGIS Arcade and Field Maps.
- Coded an Error Indicator feature that auto-populates red error flags on the map atop incorrect fiber optic cabling configurations to alert engineers of areas that need attention.
- Wrote 3 Python scripts to automate previously manual deployments and migrate 4 codebases to Azure DevOps. Used SQL scripting in SQL Server Management Studio (SSMS) to implement nightly batch jobs.

**Department Technical Director**, **DreamWorks Animation** | Glendale, CA (Remote) | *Sept 2022–Oct 2023*
- Resolved 3 major USD pipeline and rendering issues in Maya, collaborating across animation and engineering teams to ship *Trolls Band Together* (2023).
- Built a Python tool for animation file conversion for Premo 3.5, improving workflow for 50+ artists.

**Full-Stack Web Developer**, **BYU Administrative Services Group** | Provo, UT (Hybrid) | *Sept 2020–May 2022*
- Launched a MEAN stack e-commerce site from an Adobe XD prototype, serving 100+ faculty and alumni.
- Practiced Test Driven Development (TDD) with Mocha and Chai, achieving 97%+ unit test coverage.

**Software Engineer 1**, **Sling TV** | American Fork, UT | *May 2019–June 2020*
- Fixed 10+ adaptive playback bugs (ads, buffer, seek, pause/play) with TypeScript and JavaScript (ES6+).
- Boosted unit test coverage from below 25% to over 95% using Jest.

## Professional Experience: Internships and Part-Time

**Graphics Research Engineering Intern**, **Adobe** | San Jose, CA (Remote) | *May 2022 – Aug 2022*
- Developed Poppin, a digital craft tool generating 3D pop-up cards from 2D vector graphics and 3D models using Python and Trimesh.

**Full-Stack Software Engineering Intern**, **SimpleNexus** | Lehi, UT (Hybrid) | *Apr 2021 – Aug 2021*
- Implemented full-stack mortgage application features with Ruby on Rails, Vue.js, and GraphQL.

**Software Engineering Intern**, **Sling TV** | American Fork, UT | *May 2018 – Aug 2018*
- Migrated a video test harness from AngularJS/JavaScript to Angular 6/TypeScript.

**Computer Science Teaching Assistant**, **BYU Computer Science** | Provo, UT | *August 2016 – April 2019*
- Taught data structures, SQLite, client-server architecture, Java, JUnit, and Android to groups of 5–20 students. Assisted with debugging, grading, and mentoring across multiple semesters.

**Technical Director for Visual Effects**, **BYU Center for Animation** | Provo, UT | *January 2018 – April 2022*
- Created physics simulations and pipeline tools using Houdini and Python.
- Contributed to award-winning student animations: *Death and Delila, Avast Ye, Stowaway,* and *Cenote.*

**Network Operations Center Analyst**, **BYU Office of IT** | Provo, UT | *January 2015 – April 2016*
- Troubleshot campus-wide network issues with Nagios. Provided technical support and incident response.

## Projects and Skills

- **C++ Fluid Solver:** Marker-and-Cell (MAC) fluid simulation with visualization in SideFX Houdini
- **Path Tracer:** Java 3D renderer using path tracing and median-split acceleration
- **Skills:** Python, C++, Java, TypeScript, JavaScript, C#, SQL, Ruby on Rails, C, Dart, Matlab**,** Angular, Node, Vue, React, GLSL, GraphQL, HTML/CSS, Sass, Flutter, MongoDB, OpenGL, SSMS, Metasploit, PyQt**,** Git, Jest, JUnit, CI/CD, Linux, Bash, ArcGIS, Docker, Selenium, Mocha/Chai, AWS, Assembly, AI, PHP, MongoDB, Microsoft SQL Server