

## Alex Lauderdale

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### EDUCATION

**EAST TENNESSEE STATE UNIVERSITY (ETSU)**, Johnson City, TN

**Master of Science (in progress)** – Computing Department, **GPA: 3.9**

Concentrations: **Applied Computer Science**

Thesis Topic: “Utilizing Semantic Networks for Phenomenological Modeling of Fictional Narrative”

Selected Courses: Artificial Intelligence, Software Project Management

**Bachelor of Science** – Computing Department, Magna Cum Laude, May 2014

Concentrations: **Computer Science, Information Technology**

Accreditation: Computing Accreditation Commission (CAC) of ABET

Honors: Upsilon Pi Epsilon, Golden Key Honor Society

Selected Courses: Information Security, Android Development, Geography (Earth Science)

**WALTERS STATE COMMUNITY COLLEGE (WSCC)**, Morristown, TN

**Associate of Science** – Mathematics, Magna Cum Laude, May 2014

Honors: 2013-2014 Outstanding Student Award – Mathematics, Phi Theta Kappa

### ACADEMIC PROJECTS

**Nameless Stack Machine** (Designer, Developer), ETSU, Jan. 2019 – Present

- Architected and built an extensible stack machine and language interpreter, written in Java.
- Designed and tested a Turing-complete, Forth-like programming language with 100+ keywords.
- Efficiently leveraged object-oriented design patterns to facilitate easy extension of the language.
- Analyzed and evaluated the developed machine architecture as a prototype for a future project.

**Software Systems Engineering Team** (Technical Leader), ETSU, Aug. 2012 – May 2013

- Developed test-cases and performed white box and black box testing.
- Coordinated with other project leaders to ensure the integrity and consistency of the documentation.
- Gathered requirements, designed and provided oversight for the creation of relevant, interoperable classes.
- Designed and implemented classes in C# as part of a successful implementation in ASP.NET, MVC 4.0.

**Android Development Team** (Gameplay Developer), ETSU, Dec. 2012

- Developed backend classes and algorithms for an interactive puzzle game.
- Used proofing techniques to test and optimize algorithms mathematically.
- Applied skills in Java programming and discrete mathematics.

### INDEPENDENT PROJECTS

**Dreamscape Text-Based Adventure Game** (Founder, Lead Developer), May 2006 – May 2014

- Designed and implemented a tightly integrated set of game-specific libraries and commands.
- Accepted and managed bug reports and feature requests from end users of the game software.
- Applied the principles of island theory to ensure a flexible and engaging storyline for players.
- Modified the source code of a multi-user game platform to implement additional features.
- Provided oversight and support for additional team members as the project expanded.

### WORK EXPERIENCE

**Freelance Software Engineer**, Tzolkat Software and Consulting, May 2014 – Present

- Coordinated directly with clients to establish and validate software feature requirements.
- Applied Agile development principles to create and deliver robust software solutions, including:
  - Utilities for businesses operating in a virtual environment, such as vendors and unpacking scripts.
  - LSL code and sound effects for client products, such as texture appliers, animated candles and doors.
- Used effective time management strategies to ensure efficient product turnaround and accurate billing.

**Contract Tutor**, Tutor.com, Sept. 2018 – Present

- Worked in a fast-paced, online environment to deliver tutoring services to students nation-wide.
- Applied advanced problem-solving skills to quickly gain functional knowledge of unfamiliar material.
- Provided tutoring to students seeking help with programming and Microsoft Office software.

**Tutor**, Student Tutoring, Walters State Community College, May 2014 – May 2018, Oct. 2018 – Present

- Provided tutoring for students in college level writing, mathematics, and programming.
- Provided tutoring and technical support for students learning Microsoft Office 2008 and later.
- Provided additional troubleshooting and technical support for students and staff as needed.

**Adjunct Instructor**, Computer Science Department, Walters State Community College, May 2018 – Aug. 2018

- Coordinated with other instructors to successfully deliver a free educational workshop for adult learners.
- Provided instruction to students towards reaching competency in Microsoft Windows and Microsoft Office.
- Designed assignments and provided feedback and one-on-one assistance to students via email.

**Teaching Associate**, Department of Computing, East Tennessee State University, Aug. 2016 – May 2018

- Provided instruction to students in the proficient use of Microsoft Windows and Microsoft Office.
- Provided feedback and one-on-one assistance to students via email and during scheduled office hours.
- Coordinated with other instructors to plan and implement a successful curriculum.

## **INTERNSHIPS**

**Computer Technician**, IET, Walters State Community College, Feb. 2014 – May 2014

- Provided computer troubleshooting, support, and maintenance for college faculty and staff.
- Cooperated with other technicians to maximize the efficiency and overall effectiveness of support.
- Aided other technicians in reorganizing inventory to provide quicker access to supported hardware.

## **PROFESSIONAL COMPETENCIES**

Languages: C, C++, Assembly (x86), Fortran, Java, C#, VB.NET, Python, JavaScript, SQL, PHP, HTML, CSS  
OS: Linux (Debian, Ubuntu, Red Hat), Windows 10/8/7 and prior, MacOS, UNIX, Android, iOS  
Methodologies: Agile (XP, Scrum), Unified Process (RUP, AUP), Spiral, Waterfall.  
Attributes: Exceptional critical thinking, problem solving, analytical skills, good written/verbal communication skills, strong mathematics and writing skills.

## **COMMUNITY AND VOLUNTEER PROJECTS**

Second Life (Asset Creation / Scene Design / Scripting) 2014 – Present

Phoenix Firestorm Viewer Project (QA / Beta Testing) 2012 – Present

Dreamscape Roleplaying Group (Gaming / Text-based Roleplaying) 2004 – 2014

East Tennessee State University – Department of Theatre and Dance (Set Construction) 2011 – 2013

Gallery Magazine (Creative Writing) 2008 – 2009