

## TOAN VO

Maryland, USA • <https://toanvo.dev>

## EDUCATION

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University of California, Irvine

September 2019 - June 2024

B.S. in Computer Science

GPA: 3.7/4.0

## SKILLS

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**Programing Languages:** C, C++, Java, Python, MySQL, PostgreSQL, JavaScript, React, Next.js

**Technology:** AWS, Tomcat, Firebase, VIM, Unix, Git, VSCode, IntelliJ, Arduino/STM32/Tiva/Raspberry Pi Microcontroller, Windows/Mac/Linux OS, MS Office, OpenAI, LTE/5G, Rohde & Schwarz network emulation

**Relevant Courses:** Data Structure, Principles in System Design, Operating System, Data Management, Artificial Intelligence, Computer Network, Web Development, Embedded System, Internet of Things, Compilers and Interpreter, Software Engineer

**Certification:** AWS Cloud Practitioner

**Languages:** English, Vietnamese

## EXPERIENCES

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**Patent Examiner – Computer Science | U.S. Patent and Trademark Office (USPTO)** April 2026 – Present | 40 hours/week

*USPTO is the federal agency responsible for granting patents and registering trademarks to protect intellectual property rights*

- Examined patent applications related to multiplexing, computer networking, wireless communication, and software technologies by conducting prior art searches and evaluating compliance with 35 U.S.C. §§ 101, 102, 103, and 112.
- Analyzed over 10,000 patents and technical documents using USPTO examination systems to determine patentability, novelty, and non-obviousness of emerging technologies.
- Drafted Office Actions and communicated examination findings with applicants and supervisors to support accurate and efficient patent prosecution.

**Network Engineer | BTI Solutions, Inc.**

September 2024 – March 2026 | 40 hours/week

- Verify network and software stability on the latest Android mobile products, including TCP/UDP communication testing.
- Communicate findings via technical reports and perform hardware/software maintenance, installations, and upgrades.
- Provide technical support for system development, troubleshooting, and field testing on 3GPP standards (GSM, EDGE, WCDMA, HSPA, LTE, 5G). Research, test, debug and monitor software patches, designing and executing test plans to analyze and resolve issues. Conduct TCP/UDP protocol analysis for network performance evaluation and optimization.
- Collaborate with clients, R&D and QA teams to ensure issue resolution and support carrier lab testing as needed.

## PROJECTS

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**Compiler Development**

April 2024 – June 2024

- Built a compiler in Java 11 to translate a small imperative programming language into x86 assembly.
- Implemented five development stages: parsing Crux source code (ANTLR parse tree), generating an Abstract Syntax Tree (AST), type checking, intermediate representation, and assembly code generation.

**Tone Player**

March 2024

- Designed and implemented an embedded system using the Tiva Board TM4C123GH6PM to play sounds.
- Developed a C program to interface the microcontroller with LEDs, a keypad, and a speaker.
- Configured register pins for hardware components and UART communication without using libraries.
- Integrated keypad input to trigger sound playback at human-audible frequencies.

**Full-Stack Movie Website & Android Application**

September 2023 – December 2023

- Wrote 7,706 lines of Java, JavaScript, HTML, CSS code to build a movie website and Android app, designing the architecture and setting up AWS, MySQL, and Tomcat. Developed an ETL pipeline for parsing large XML files, enriching a large movie database. Built a feature-rich frontend with JavaScript, jQuery, and AJAX, integrating with the Android app via a shared backend API.
- Implemented ~20 key features, including a movie catalog, secure login (SHA-256), full-text search with caching, cart checkout, bot detection (reCAPTCHA), and SQL injection protection. Optimized performance by 98% using MySQL connection pooling, replication, and Apache load balancing.