Ivy Nguyen

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SOFTWARE PROJECTS

Embedded Keypad Driver

- Designed and implemented a bare-metal driver for a 4x4 matrix keypad on an STM32 microcontroller.
- Utilized row-column scanning technique to efficiently detect keypresses in the absence of an RTOS.
- Implemented software debouncing logic to ensure accurate key detection and reduce false triggers.

RISC-V Decoder

- Developed a RISC-V object file decoder in C to translate binary object files into ASCII memory initialization files for simulation and hardware loading.
- Implemented a control signal extraction function that decodes 32-bit RISC-V instructions and identifies control signals such as ALU operation, register write, and memory access controls.

Masters Nationals Scheduling Website

- Engineered a full-stack web application to manage dynamic team lineups, replacing a manual Google Sheets workflow with a scalable, structured system built using SvelteKit, JavaScript, and MS SQL.
- Designed a robust front-end/back-end interface for real-time data updates, demonstrating strong system integration and architecture planning.
- Update codebase to meet client needs and web security standards.

PROFESSIONAL EXPERIENCE

Appian Corporation McLean, VA

Technical Support Engineer ***August 2024 – Present***

- Resolved 400+ complex customer support cases, including 20% labeled as high-priority.
- Engineered and configured 60+ secure site-to-site integrations using VPN.
- Reduced system triage and debugging time by 76**%** by redesigning a monitoring interface to surface real-time performance metrics.
- Led infrastructure migration projects, coordinating technical transitions with minimal service disruption.

Juni Learning Remote

Senior Computer Science Instructor ***March 2022 – July 2024***

- Developed innovative instructional content for Python lessons, resulting in a 84% increase in student participation and enthusiasm.
- Transformed complex subject matter into comprehensible content that resonated effectively with diverse learners.

EDUCATION

University of Pennsylvania, School of Engineering & Applied Science Philadelphia, PA

Bachelor of Applied Science ***May 2024***

Major: Computer Information Systems | *Minor*: Psychology *GPA*: 3.56/4.0

Relevant Coursework: Embedded Systems Programming; Computer Organization & Design; Computer Architecture; Computer & Network Security; Programming Languages & Techniques; Database & Information Systems; Human Computer Interaction

SKILLS

Software: Embedded C, C/C++, Python, Verilog
Hardware: STM32, ARM, Arduino, ESP32
Protocols: I2C, SPI, UART, USB
Technical: Git, Networking, VPN, Bash, Linux