Phong V. Cao

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EXPERIENCE

Senior Software Engineer - Nvidia • Austin, TX *Aug 2025 - Present*
• Owned resolutions of release-blocking GPU board failures, with LAN-over-USB fixes shipped across Nvidia HGX platforms.
• Owned Redfish reference schemas and conformance for HGX Rubin NVL8 gating partner-bound firmware releases.
• Established physical-slot GPU naming conventions on HGX Rubin NVL8 through cross-team RFC.
• Drove firmware fixes in bmcweb, entity-manager and the telemetry daemon, shipped in 3 Nvidia products.
• Partnered with NIC firmware team to address PCIe firmware defect via raw MCTP tests.

Senior Software Engineer - Nvidia • Austin, TX *May 2024 - Aug 2025*
• Owned power shelf controller firmware for GB200 NVL72 fleet, enforcing rack power limits and AC-loss recovery.
• Owned OpenBMC-on-QEMU emulation for the GB200 NVL72, enabling pre-hardware validation and regression testing.
• Architected the power shelf Redfish API that vendors adopted and Nvidia's customer telemetry guide now uses.
• Built the C++ rack power service (D-Bus/sdbusplus) as one Nvidia control path for power shelves from multiple vendors.

Senior Software Engineer - Tesla • Austin, TX *May 2023 - Feb 2024*
• Led design and delivery of key features for Tesla's factory Material Flow System (Go, JavaScript, Python, SQL, Kafka).
• Drove factory material flow throughput up ~21% with pickup and drop-off prioritization.
• Improved Kafka performance ~33% through topic partitioning and message compression.
• Mentored interns and new engineers through structured onboarding.

Software Engineer - Google • Austin, TX *Nov. 2021 - Mar. 2023*
• Built features for Alphabet's automated security-risk system, rating each device by hardware profile and user behavior.
• Cut data pipeline latency ~15% with parallel and concurrent processing (Go, C++, Kubernetes).
• Raised database performance ~11% with Spanner sharding (SQL, Spanner).
• Assigned security risk levels automatically from hardware security key data and flagged devices with modified firmware.

Software Engineer - Google • Sunnyvale, CA *Dec. 2019 - Nov. 2021*
• Built test libraries and one common hardware-access API for many server types in Google data centers (Go, C++, Python).
• Wrote tests detecting CPU and memory security weaknesses (Rowhammer) on Intel and AMD servers.
• Raised service level availability ~0.5% by redesigning server hardware tests.
• Improved test infrastructure API performance ~5% with heuristic analysis tools (Go, Python, C++).

Software Engineer - Arista Networks • Santa Clara, CA *June 2015 - Dec. 2019*
• Wrote Linux kernel modules and switch-chip drivers for Arista EOS on thousands of switches in cloud data centers.
• Raised data transfer rates across switches and routers ~19% by refactoring kernel drivers.
• Led switch-chip driver library work that cut product cost ~10% (C++).

Creator - Hire4Real.fyi • Austin, TX *Aug 2026 - Present*
• Built and runs hire4real.fyi, a free public index of 11M+ US Department of Labor filings across 333K+ employers.
• 700K+ unique visitors per month (Plausible), with the typed parsing core open source (MIT) under pytest and CI.
• Built and operated the platform end to end with AI coding agents (Claude, DeepSeek), from data parsing to deployment.

OPEN SOURCE

vim-stardict: dictionary-lookup plugin for the Vim editor, with Bash and Zsh support (Python, VimL).

SKILLS

Languages: C++, C, Python, Go, JavaScript, SQL, Bash
Firmware: OpenBMC (bmcweb, entity-manager, sdbusplus), Embedded Linux, Linux Drivers, U-Boot, Yocto, BitBake
Protocols: DMTF Redfish (CSDL, JSON Schema, Service Validator), MCTP, PLDM, SPDM, IPMI, USB, PCIe, I2C
Validation: pytest, Playwright, QEMU (ASPEED AST2600), board bring-up, DMTF validator runs, soak tests
Backend: FastAPI, Docker, Jenkins, GitLab, Kafka, Spanner, Kubernetes, Claude, Codex, DeepSeek, AI Agents
Hardware: Nvidia HGX GPU Baseboards, Rack Power Shelf, ASPEED AST2600 BMC, Broadcom Tomahawk/Trident ASICs

EDUCATION

Stony Brook University • Stony Brook, NY • *May 2015*
Bachelor of Science in Computer Science