Thomas Nguyen

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EDUCATION

Virginia Polytechnic Institute and State University *Blacksburg, VA*
Bachelors of Science in Computer Science, Minor in Mathematics *Expected May 2026*

- GPA: 3.95/4.0 — *Clark Scholar, VICEROY Scholar, Dean's List, Eagle Scout*
- Clubs: Society of Asian Scientists and Engineers, VSA, VTHacks, HooHacks,
- Coursework: Data Structures & Algorithms, Computer Systems and Organization, Database Management Systems

TECHNICAL SKILLS

Programming Languages: Python, C, Java, HTML/CSS
Developer Tools: Git, Docker, Kubernetes, Linux, Incus, Terraform, Ansible, Wireshark

EXPERIENCE

Lockheed Martin *Fairfax, VA*
Software Engineering Intern *December 2024 – January 2025*

- Designed and implemented a workload management portal for developers authenticated with Keycloak
- Optimized workload deployment performance through linking Incus with FastAPI, decreasing spin up time by 25%
- Utilized Ansible to manage workload scalability, efficiently provisioning 10+ Kubernetes clusters with a python script

Virginia Tech NSI Program *Blacksburg, VA*
Undergraduate Research Assistant *November 2024 – Present*

- Conducted in-depth research to formulate a social cyber vulnerability index for older adults through modeling survey data
- Analyzed and sorted over 3,000 Reddit scam datasets by leveraging the OpenAI API, automating categorization of the scam type (e.g., phishing, job scam), visualizing results using Python to graph against other social vulnerability indexes

Virginia Tech Computer Science Department *Blacksburg, VA*
Undergraduate Teaching Assistant *August 2024 – December 2024*

- Aided over 300 Data Structures and Algorithms students by helping to debug problems on their projects and homework
- Assessed algorithmic complexity analysis and how to effectively use different data structures and algorithms
- Collaborated with course instructors and 25+ other teaching assistants to improve course content and the learning environment

Lockheed Martin *Fairfax, VA*
Software Engineering Intern *May 2024 – August 2024*

- Implemented a nested Incus system container infrastructure for managing 3+ microk8s and k0s multicluster environments, optimizing deployment capabilities and mitigating cybersecurity risks
- Automated rapid provisioning of development workspaces using infrastructure as code tools Terraform and Ansible, streamlining setup across multicluster deployments with potential for usage in production
- Evaluated and maintained infrastructure stability by integrating a static web UI and monitoring of 60+ metrics such as CPU, network, and memory usage with real-time visualization through a dynamic dashboard using Grafana

PROJECTS

Threadpool | *C*

- Developed a fork-join threadpool to optimize task execution and resource management in multithreaded applications
- Implemented a work-helping and work-stealing threadpool with POSIX threads, ensuring concurrency and parallelism
- Optimized performance by 58% through thread synchronization tools such as per-thread locks and memory alignment padding

Custom Shell | *C*

- Designed and constructed a custom shell to execute built-in and external commands like command history or change directory
- Integrated advanced features such as command piping, input/output redirection, terminal state, and background process execution through efficient use of process groups, signal handling, and UNIX system calls

Seminar Manager | *Java*

- Developed a seminar management system utilizing a hashtable for efficient data retrieval and a custom memory manager for optimized resource allocation
- Reduced fragmentation and resource usage by utilizing the buddy system for memory allocation
- Tested edge cases with JUnit tests and minimized code redundancy with mutation testing