Samuel Leong

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Education

- **William and Mary** — *Bachelor of Science, Computer Science Major, Data Science Minor* *December 2026* | *Williamsburg, VA*
  - Major GPA: 3.89
  - Relevant Courses: Software Development, Systems Programming, Applied Cybersecurity, Computer Organization, Algorithms, Principles of Programming, Data Structures.
- **The Web Development Boot Camp** *June 2025* | *Remote* | *Certificate*
  - Gained hands-on experience with HTML5, CSS3, JavaScript, Node.js, Express.js, MongoDB, and React through 70+ hour project-based curriculum.
- **Docker & Kubernetes: The Practical Guide** *December 2025* | *Remote* | *Certificate*
  - Completed 23.5-hour hands-on course covering Docker containerization, multi-container orchestration with Docker Compose, Kubernetes deployment, and cluster management.

Experience

- **DisinfoLab** — *Software Engineer* *Williamsburg, VA* | *September 2024 - present*
  - Built automated data pipeline integrating Selenium and Beautiful Soup for web scraping with FinBERT transformer model to perform sentiment analysis on over 150 articles.
  - Contributed to frontend, backend, and data collection development across multiple project teams.
- **iDTech** — *Instructor* *Charlottesville, VA* | *June 2025 - August 2025*
  - Taught students object-oriented principles and scripting fundamentals in Java and Lua.
  - Supervised residential campers, configured lab workstations, and managed classroom environments throughout week-long sessions.

Personal and Work Projects

- **Wok** — *A high-performance 2100-rated chess engine coded in C++* *August 2025* | Live
  - Developed support for both native and WebAssembly builds using Emscripten, enabling cross-platform deployment in browsers and desktop environments.
  - Implemented a Minimax Search Algorithm with alpha-beta pruning, reducing unnecessary evaluated positions by 35%.
  - Utilized Zobrist hashing to cache search states, improving move ordering and enabling transposition tables for an 83% deeper search.
- **Historical Spots** — *A Full-Stack Historical Site Review Web Application* *July 2025* | Live
  - Developed RESTful API using Node.js and Express.js to handle server-side routing and request processing.
  - Implemented secure authentication using Passport.js with OAuth integration and Helmet.js middleware to protect against common web vulnerabilities.
  - Designed responsive front-end using HTML5, CSS3, JavaScript/jQuery, and EJS templating engine for dynamic server-side rendering.
  - Architected MongoDB database to manage historical sites, user data, reviews, and ratings.
- **Fact Forecast** — *A Full-stack fact-checked information platform built for the DisinfoLab* *November 2025* | Live
  - Engineered interactive mapping interface with OpenLayers for visualizing country-specific GeoJSON datasets and optimized rendering performance, reducing memory consumption by 57%.
  - Developed Flask backend API with Elasticsearch integration, implementing vector search for semantic queries and high-performance data retrieval.
  - Configured ELK stack with Logstash data pipelines and Kibana dashboards for real-time analytics and visualization of streaming data.

Skills

- **Languages:** Python, Java, HTML, CSS, JavaScript, C, C++
- **Software/Frameworks:** Git, Node.js, Express.js, Flask, ElasticSearch, Logstash, Kibana, Bootstrap, Linux, Eclipse, LaTeX, JUnit, Pytest, OpenLayers, MongoDB, Docker, Kubernetes
- **Awards:** 5th place NCL Fall 2025 Team Game Graduate Bracket, TribeHacks 2024 Best Map & Data Hack