Tanya Singh

Sterling, Virginia | ✉ tanya.singh89200@gmail.com | 📞 (202)-945-8651 | in www.linkedin.com/in/tanya-singh8920

EDUCATION

University of Maryland, College Park   **College Park, MD**   **Graduation Date: May 2027**
Bachelor of Science in Computer Science, Minor in General Business   *GPA: 4.00, Dean's List*

- Relevant Coursework: Object-Oriented Programming II, Applied Probability and Statistics I, Discrete Structures, Introduction to Computer Systems, Introduction to Linear Algebra, Organization of Programming Languages, Algorithms
- Leadership: Committee Member at Association for Women in Computing, Marketing Lead at Google Developer Student Club, Developer and Secondary Lead at Campus Coders Crew, Researcher in the First-Year Innovation & Research Experience

SKILLS

- **Languages and IDEs:** Java, C, Assembly, R, Ocaml, MATLAB, Python, Eclipse, JGrasp, RStudio, VS Code, GitHub, Jupyter Notebook
- **Certifications:** PowerPoint Office 2019 MOS Certification, Word Office 2019 MOS Certification, Excel Office 2019 MOS Certification, Microsoft Specialist - Associate
- **Workspaces and Applications:** Google Workspace, Microsoft, Mathematica, Windows and Macintosh Systems
- **General:** Research, Data/Statistical Analysis, Collaboration, Critical Thinking, Teamwork, Strong Work Ethic, Problem Solving, Communication

WORK EXPERIENCE

Lavner Education   **Washington, DC**   **June 2025 - August 2025**
Intern/Instructor

- Delivered quality instruction to students regarding Coding topics, STEM & Medicine, All-Girls STEAM, Robotics and more.
- Mastered a hands-on curriculum in order to provide a one-on-one learning experience to 40+ students regarding STEM subjects.
- Led set-up and maintenance of the on-site check-in software, computer software, computer hardware, and camp inventory.

Easy Dynamics   **McLean, VA**   **January 2025 - January 2025**
Intern

- Conducted a research project regarding the ability of various LLMs to help researchers find and collect information regarding payroll threat/fraud.
- Prompted and modified various research questions regarding payroll threat/fraud to analyze the strengths and weaknesses of each LLM model.
- Developed a proposal presentation on findings regarding the use of LLMs to conduct payroll threat/fraud research using Microsoft applications.

Sylvan Learning Center   **Leesburg, VA**   **December 2023 - August 2024**
Lead Math Tutor

- Assisted 30+ students from K-12th grade with various math concepts, ranging from addition to statistics and discrete mathematics.
- Led two 7-week sessions for Digital SAT by learning a completely new curriculum in order to provide one-on-one tutoring.

Code Ninjas   **Leesburg, VA**   **November 2022 - November 2023**
Code Sensei

- Encouraged students ages 5-14 to explore and understand programming concepts such as Scratch, JAVA Script, and C#.
- Learned a hands-on curriculum in order to master platforms such as Roblox Studio, MCreator, and Unity.
- Led two summer camp workshops on creating personalized Unity games as well as YouTube videos.

PROJECTS

Maze Solver with Breadth-First Search | *C*   **2025**

- Implemented a maze solver in C that uses breadth-first search (BFS) to compute the shortest path between points in a grid-based maze. This project emphasized graph theory concepts, traversal algorithms, and structured input parsing while reinforcing algorithmic problem-solving in a systems programming context.

Assembly Programming & PuzzleBin | *Assembly, C*   **2025**

- Translated bit manipulation to build a scale display in C into optimized x86-64 assembly code to better understand how high-level operations map to machine instructions. Debugged a compiled binary called PuzzleBin using GDB, which required analyzing control flow and applying low-level reasoning to understand data representation and efficient storage.

EL Malloc: Performance Optimization & Multithreading | *C*   **2025**

- Designed and implemented a custom dynamic memory allocator (EL Malloc) in C to explore explicit memory management and system-level optimization. Applied multithreading with pthreads to build a matrix normalizer that benchmarked allocator performance, gaining experience with concurrency, synchronization, and cache efficiency in computational workloads.

Personal Portfolio | *HTML, CSS, JavaScript, React*   **2025**

- Created a fully responsive and interactive personal website that was built from scratch using HTML, CSS, JavaScript, and React. Features modern design principles, smooth animations, and dynamic content presentation to showcase professional experience and skills, gaining hands-on expertise in front-end development and UI/UX design.

RESEARCH

Effectiveness of Large Language Models (LLMs) in Weather Forecasting for Arlington, VA | *R*   **2025**

- Conducted an independent research study evaluating the effectiveness of Large Language Models (GPT-5, Claude Sonnet 4, and Gemini 2.5 Pro) in predicting weather patterns in Arlington, VA. Prompted each model to generate daily forecasts, compiled and cleaned the resulting data, and performed paired t-tests in R to assess accuracy against actual weather outcomes. Gained experience in experimental design, data-driven analysis, and statistical evaluation of AI model performance.