Dwight Thompson

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EDUCATION

Stanford University   **Stanford, CA**
*B.S. in **Computer Science (CS Theory / AI)** and **Psychology** (3.8 GPA)*   June 2028
Relevant Coursework: Probability for Computer Scientists, Computer Organization & Systems, Linear Algebra & Multivar. Calculus

PROFESSIONAL EXPERIENCE

Amazon Web Services | *Software Development Engineering Intern* | Seattle, WA   June 2025 – September 2025
- Built internal tool to compare and modify product hierarchies, boosting AWS service usage and revenue tracking ability by 80%.
- Incorporated AWS Lambda and Bedrock services within the backend for effective AI summarization and increased user clarity.
- Designed front-end with React and Typescript, leveraging API Gateway and DynamoDB for low latency queries (<500 ms).

MIT Introduction to Technology, Engineering, and Science | *Scholar* | Cambridge, MA   June 2023 – August 2023
- Designed a Convolutional Neural Network to detect and quantify curvature in synthetic lane lines with Julia (<0.1 testing loss).
- Scaled hyperparameters to train a CNN on real-world images with Tensorflow's Keras using Berkeley's Deep Drive database.
- Interviewed Dr. Xu Chen, a leading expert in AI image segmentation, and authored an article on the future of AI consciousness.

NCSSM Summer Ventures | *Researcher* | UNC Charlotte   June 2022 – July 2022
- Optimized Pollard Rho's algorithm with Stein's algorithm, using the Miller-Rabin primality test to quickly filter out early primes.
- Demonstrated up to a 32.5% speedup in performance for numbers under 10^{13} compared to standard Pollard's Rho implementation.
- Benchmarked optimization runtime against other factorization algorithms, such as naive, square root, and sieve implementations.
- Created a poster presentation and research paper regarding the optimization and presented it to UNC Charlotte faculty and peers.

The Coder School | *Programming Instructor* | Cary, NC   June 2024 – July 2024
- Taught Python to elementary and middle school students, using projects and challenges to teach foundational programming skills.
- Created engaging activities, resolved conflicts, and updated parents about students' progress for a positive learning environment.

YMCA | *Elementary School Counselor* | Apex, NC   March 2023 – January 2024
- Provided after-school counseling for over 50 elementary school students at Turner Creek Elementary School.
- Planned and organized weekly student activities, fostered healthy student-parent relationships, and handled conflicts & disputes.

PROJECTS

BlinkAI | *Stanford TreeHacks* | Python | Mistral AI | Tailwind | Flask | OpenCV   February 2025
- Created BlinkAI, a web application designed to assist in non-verbal communication to those with mobility challenges.
- Crafted front-end with React and Vite to collect client video input and integrated backend with Flask to process facial footage.
- Processed input with Google MediaPipe and OpenCV, translated it to text, and utilized MistralAI's API to generate a response.
- Won Best Beginner Hack prize out of all 270 projects.

True North | *AWS Hackathon* | Python | Strands | S3 | Bedrock | Lambda | Typescript   July 2025
- Developed an AI agent that traces through AWS data lineage transformations, reducing engineers' lineage search time by 75%.
- Integrated pre-existing data lineage APIs with Bedrock and Strands SDK through AWS Lambda; built with Python & Typescript.
- Utilized a S3 vector store for a knowledge base, MCP server for reading the codebase, and SQL parser to enhance model context.

Read Canvas Assignments | *Personal Project* | HTML | CSS | Javascript | LLMs   June 2025
- Built a chrome extension to detect Canvas assignments, call an LLM, and summarize project requirements and all external links.
- Designed to reduce cognitive load and time spent researching, reducing the time I spend reading assignments by 40%.
- Built frontend with standard HTML and CSS, with Javascript hosting the majority of the work on the backend.

LEADERSHIP & PROFESSIONAL DEVELOPMENT

Society of Black Scientists and Engineers | *Academic Excellence Chair* | *Stanford, CA*   May 2025 – Current
- Organize weekly study nights, coordinating with CTL tutors and providing food to create a supportive environment.
- Conduct academic workshops annually on topics like four-year planning, grad school applications, and research opportunities.
- Connect students with professors for mentorship and career advice at networking events like faculty dinners and majors nights.

SKILLS & INTERESTS

Language / Frameworks: C++, Typescript, Java, C, AWS, Python, SQL, React, Tensorflow, Kotlin, OpenCV, Vite;
Tools: Git / Github, Unix, Neovim, Visual Studio Code, PyCharm, MySQL, Xcode Debugger
Hobbies: Competitive Programming, Music Production, Audio Engineering, Puzzle Making