Nishant Aggarwal

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EDUCATION

Wesleyan University Middletown, CT

B.A. Computer Science & Mathematics, Economics Minor, GPA:3.82 Clubs: CodeWes (Event Coordinator), WAFA (Financial Manager)

May 2026

WORK EXPERIENCE

Research Assistant Jan 2023 — Present

Privacy-tech-lab

Middletown, CT

- Designed and implemented large-scale analysis to capture network data of **1896 apps**, to dynamically test the information being sent to ad networks given a combination of the GPC signal, permissions, and Google's Advertising Id.
- Developed Proof-of-Concept Android App with enhanced usability, enabling users to toggle GPC and manage Google AdID opt-out status in 3 toggles compared to the usual 7.
- Explored the Android Ecosystem to find a way to implement GPC on Android while finding a work around to App Sandboxing, and Certificate Pinning.
- Analyzed a dataset containing network captures of over 150GB, to find privacy-related information including the IAB Privacy String, Global Privacy Platform, Facebook LDU, Google RDP, Google AdID, and Ad-tracking domains.
- Analyzed privacy policies of 33 most prominent Ad-Networks to find their compliance level on various privacy signals.
- Presented poster at Wesleyan Summer Science Symposium, earning honorable mention for best poster; submitted paper to peer-reviewed journal, currently being reviewed.

Teaching Assistant

Jan 2023 — May 2023, Sept 2024 — Dec 2024

Wesleyan University

Middletown, CT

- Led weekly help sessions, aiding students in problem sets and content comprehension, from basics including memory management, fundamental data structures to advanced concepts including interpreter design and language development.
- · Led a lab containing about 40 students by clarifying questions, and applying the concepts learned in class.

PROJECTS

Product Manager and Lead developer

June 2023 — Present

<u>OurCampus</u> Middletown, CT

- Led the Technical and Business teams to innovate and implement critical features for a centralized campus hub app, achieving a **100% increase in daily users** within a 3-month timeframe.
- · Guided a team of over 10 individuals, utilizing Scrum and Agile Methodology to ensure efficient project management.
- Spearheaded the integration of new features such as Spot-check, Daily Menus and Events, and a Campus-specific Rate-My-Professor, enhancing the app's functionality and user experience.

Full-Stack Developer

Jan 2023 — May 2023

Middletown, CT

Privacy Messaging App

- Led a team of **4 individuals** to develop a real-time messaging service application utilizing web sockets.
- Designed and executed end-to-end encryption employing AES-256-bit encryption coupled with an additional layer of RSA, ensuring secure user connections with comprehensive security measures for privacy protection.
- Implemented a blockchain inspired feature to ensure context integrity, deleting all messages after a designated timestamp, to prevent misuse of messages out of context.
- <u>Conceptualized a hardware-based security method</u> using electromagnetic frequencies camera proximity sensors emit when active, applying IR LED lights, and modifying screen frame rates to interfere with photographing the chat screen (<u>Presentation</u>)

Back-End Developer

Dec 2023 — Present

E-Commerce Backend

Middletown, CT

- Implemented Microservice Architecture and its related design principles including API Gateway, Service Discovery, Inter Process Communication, and Circuit Breaker.
- Developed and implemented various modules as part of the E-Commerce backend, providing comprehensive functionality.

SKILLS

Programming: Microservice Architecture, REST API's, PostgreSQL, MongoDB, Containerization, Cloud Native, Data Analysis, Web Scraping, Bash Scripting, Java, Python, JavaScript, OCaml, C, PHP, Bash, Wolfram Mathematica

Frameworks/Tools: Spring Boot, Spring Cloud, React, React Native, Node, Git, NextJS, Docker, Jupyter Notebooks, Postman

Relevant Coursework: SWE, InfoSec, Algorithms, Quantum Computing, Program Analysis, Applied Linear Algebra, Real Analysis