

Avi Kumar

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University of North Carolina at Chapel Hill | Chapel Hill, NC 27514

EDUCATION

- UNC Chapel Hill, Class of 2026 | *B.S. Computer Science, B.A. French* | Dean's List Member; Cumulative GPA: 3.68
- Early College at Guilford High School, North Carolina, Class of 2022 | GPA: 4.60, SAT: 1550, ACT: 32

LANGUAGES: JavaScript, TypeScript, Python, C, C++, MIPS, Java, SystemVerilog, CSS Preprocessors, HTML5, SQL, JSP | Hindi, French

TOOLS: Nextjs, React, Angular, FastAPI, SQLAlchemy, FPGA Development, SAP Hybris, GTM, Kubernetes, Docker, Supabase, Nodejs, Tailwind, GCS, Flask, Piwik/Matomo, Figma, Optimizely, Power BI, Dynatrace, Tableau

KEY EXPERIENCE

- **Bausch + Lomb, eCommerce Software Engineer & Lead Web Analytics Architect** **August 2024-**
Design, build, and optimize front-end features, analytics integrations, and internal software tools for Bausch + Lomb's global eCommerce platform. Work blends software engineering, UI/UX, and front-end development across SAP Commerce Cloud and other platforms to deliver scalable solutions that improve customer experience and internal analytics capabilities.
 - Built a JS-based analytics tracking framework from scratch in Piwik Pro Tag Manager; lead end-to-end design, implementation, and testing of advanced JavaScript tags to capture eCommerce and CX KPIs; serve as the company's primary expert in Piwik Pro web analytics.
 - Co-designer of a multi-tab self-service customer dashboard; designed widget/dashboard prototypes in Figma and developed front-end HTML components; Built a reusable SCSS architecture to ensure scalability of front-end code. Listed as front-end developer on official project charter.
 - Took over unfinished, unstarted mockups from a departing UI/UX designer, producing polished Figma prototypes for high-priority eCommerce pages to be implemented in a major site refresh.
 - Co-owner of company-wide Web Analytics Center of Excellence, establishing governance, reusable code patterns, and analytics enablement for IT and business stakeholders.
 - Conduct data analysis to identify trends, measure new feature impact, and recommend site improvements.
- **UNC Computer Science Department, Undergraduate Teaching Assistant** **January 2025-**
 - Teaching Assistant for COMP 211: Systems Fundamentals, taught by Dr. Cece McMahon
 - Provide office hours for students; grade homework and exams; contribute to writing exam questions and homework auto-graders; lecture assistance; assist in administrative coordination of TA schedules and roles.
- **Bausch + Lomb, eCommerce/IT Intern** **June- August 2024**
 - Supported senior IT leaders in the eCommerce department, with emphasis on B2B sales channels. Contributed to front-end optimization, tooling development, and UX improvement projects for company's global eCommerce platform.
 - Summer internship extended to part-time eCommerce Specialist role based on superior performance review.

Projects:

 - Built a Python tool to recover ~700 obsolete UI mockups from a defunct design tool, restoring critical design assets for ongoing projects.
 - Led a cross-functional initiative to resolve a design inconsistency on the eCommerce global platform, presenting a UX-aligned solution to international marketing teams and delivering developer-ready user stories and acceptance criteria.
 - Delivered comprehensive internal training on optimized utility of DynaTrace performance monitoring tool.
 - Performed audit, cleanup, and modularization of eCommerce site CSS to optimize page load times and maintainability.
 - Utilized JavaScript and Piwik Pro to implement web analytics tags on the eCommerce site.
- **COMP 590 elective course, Software Engineering Internship** **Spring 2024**
 - Hands-on experience in the Scrum framework and full-stack development of new features for the UNC Computer Science official website. Angular, SQLAlchemy, FastAPI, Postgres SQL, Kubernetes, etc.
- **UNC Residence Hall Association Community Government, Sustainability Officer** **2023-2024**
 - Managed sustainability initiatives for residents of Ram Village, an on-campus residential community.

PROJECTS

- **MIPS CPU & Game Implementation (March 2025):** Designed and implemented a full working CPU in SystemVerilog, compiled using Vivado and deployed on an FPGA board; integrated I/O (VGA, accelerometer, LEDs, buttons, sound) and memory mapping; developed a train-scheduling game in MIPS Assembly; implemented program on board to demonstrate processor functionality. [Project Demo](#)
- **Studio Keys (June 2024- present):** Developed a Python-based tool to recover UI/UX designs from defunct InVision Studio files, converting them into reusable SVG renderings. Enables designers to retrieve previously inaccessible graphic designs for future projects. [Github Repo](#) | [Web Application](#)
 - Implemented complex, scalable, and modular code to process .studio files, extract JSON data, and generate layered SVG outputs; included comprehensive docstrings and other best practices for maintainability.
 - Built a Flask-powered web application with an intuitive interface and Google Cloud Storage Integration for effortless file upload and conversion.
 - Enabled recovery of ~600 mockups for a professional use case, ensuring design reusability across platforms.
 - Deployed application on Render for accessible public use, providing a real-world solution for designers and teams affected by the discontinuation of InVision Studio.
- **SwipeShare (April 2025):** A community-driven platform where college students can request or donate unused meal swipes for campus dining halls. App built using Nextjs; PostgreSQL and Realtime service implementation via Supabase. [Github Repo](#) | [Web Application](#)
- **Bitmap Generator (May 2025):** A tool designed to help students in COMP 541 (Digital Logic) create sprites and bitmap memory files for their final FPGA demo applications. App built using Nextjs, React, JS localStorage. [Github Repo](#) | [Web Application](#)
- **Personal website (2024- present):** Designed and built a custom portfolio website and blog showcasing technical projects, coursework, poetry, and more. Developed using Nextjs, React, Tailwind CSS, and backend database integration via Notion. hosted on Vercel. [Link to Site](#)

SKILLS

- **Front-End Development:** Highly Experienced with Nextjs, React, Tailwind, HTML5, SCSS, Bootstrap, responsive design, and component-based styling for scalable UI and web development.
- **Digital Logic & Computer Architecture:** Design and implementation of digital circuits, processors, and memory systems onto FPGA circuits.
- **Hardware Description Languages:** Experienced in SystemVerilog for modeling, simulating, synthesizing digital designs.
- **JavaScript Engineering:** Skilled in writing web analytics tracking tag scripts using JS ES6+ and Piwik Pro; implementing, debugging and testing custom scripts, analytics tags, and data layer integrations.
- **UI/UX Design & Prototyping:** Wireframing, prototyping, and creating polished responsive designs in Figma; developing/coding mockups into HTML/CSS.
- **Software Development:** Python for tooling and automation software; Java, JS/TS, and C from coursework and projects.
- **Enterprise Platforms:** Extensive experience with SAP Commerce Cloud (Hybris), Azure DevOps, Dynatrace application monitoring, and other enterprise-scale eCommerce systems.
- **Full-Stack development:** Integration of a headless CMS with Angular; see “COMP 590 elective course” above.
- **Scrum and Agile Project Management frameworks:** following workflow, writing user stories and acceptance criteria, facilitating effective communication between business and technical-oriented teams.
- **Web Analytics:** Generation of dashboards and detailed reports to provide actionable insights for business and UI/UX teams.
- Well-versed in writing SQL queries; managing relational databases using SQLAlchemy and Supabase.
- Well-versed in developing Web APIs using the FastAPI framework.
- Well-versed in Information Design with Tableau, Power BI, and Piwik Pro; Visual Studio; Microsoft Office 365.

OTHER RELEVANT EXPERIENCE

- **UNC Computer Science + Social Good Club, Member, Education Team** **2023-2024**
- **UNC Outdoor Pursuits Residential Learning Program, Student Activity Coordinator** **2022-2023**

Coordinated various outdoor activities for the student-run club for first-year students.

- **The Guilfordian, Guilford College's student-run newspaper, *Features Section Editor*** **2021-2022**
Led a team of writers, edited and published articles; managed timeline and cadence of publication to the website.
https://www.guilfordian.com/staff_name/avi-kumar/
- **Early College at Guilford Interact Service Club, *Member, President*** **2018-2022**
- **Guilford College Chemistry Department, *Integrated Research Scholar*** **Spring 2021**
Member of undergraduate research team, Synthesis of Axial Ligand Groups on Dirhodium Paddlewheel Complexes