Avi Kumar

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EDUCATION

- UNC Chapel Hill, Class of 2026 | *B.S. Computer Science, B.A. French* | Dean's List Member; Cumulative GPA: 3.68

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-Present**
  Design, build, and optimize front-end features, analytics integrations, and internal software tools for Bausch + Lomb's global eCommerce platform.
  - Built a JS-based analytics tracking framework from scratch in Piwik Pro Tag Manager; led initiative to incorporate eCommerce and CX KPIs from web analytics in decision-making; lead end-to-end design, implementation, and testing of advanced JavaScript tags; serve as the company's primary expert in Piwik Pro web analytics.
  - Co-designer and official front-end developer of a multi-tab self-service customer dashboard; UI/UX design of widget prototypes in Figma; developed mockups into front-end HTML components; Built a reusable .LESS architecture to ensure scalability of front-end code; functional implementation of several widgets in SAP Commerce Cloud/hybris environment codebase.
  - Took over unfinished 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 for COMP 211* **January 2025-Present**
  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 by contributing to front-end optimization, tooling development, and UX improvement projects for global eCommerce platform; summer internship extended to part-time eCommerce Specialist role based on superior performance review.
  - 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; facilitated effective communication between business and technical teams; delivered 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. Built on Angular; Developed web APIs with FastAPI; managed Postgres SQL DB with SQLAlchemy; hosted via Kubernetes. Project Demo
- **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; PostgresSQL 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.
- **Web Analytics:** Generation of dashboards and detailed reports to provide actionable insights for business and UI/UX teams.
- 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**
- **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/