

CHHAVI NAYYAR

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EDUCATION

- BSc (Cognitive Systems and Design)**, University Of British Columbia, Vancouver, BC Sept 2022 – Present
- Relevant Coursework: Algorithms & Data Structures, Operating Systems, Databases, Machine Learning, Software Engineering
 - Activities: Design Director @ UBC UX Hub | Member – Women in Computer Science, Girls in STEAM

WORK EXPERIENCE

- Machine Learning Engineer** (Research), UBC, Vancouver Apr 2025 – Present
- Developed deep learning models (VTNet) for adaptive educational systems using eye-tracking data, improving prediction accuracy by 25%.
 - Engineered modular, scalable code architecture for high-performance Slurm workflows on UBC's ML cluster, reducing experimentation time by 40%.
 - Conducted statistical analysis and AUC evaluations to ensure generalization across varied task scenarios.
- Design Assistant** (Part-Time), UBC Extended Learning, Vancouver Sept 2024 – Present
- Created accessible HTML/CSS course pages for LMS platforms, increasing user engagement and course completion rates by 30%.
 - Conducted UX audits and user testing to implement design improvements that reduced navigation friction by 50%.
- Software Developer** (Internship), TechyWeb Solutions, Vancouver Jan 2024 – Mar 2024
- Developed and deployed Node.js backend microservices powering mobile apps with 50K+ users.
 - Designed REST APIs with robust validation, authentication, and rate-limiting, reducing API error rates by 35%.
 - Collaborated with designers, producers, and client engineers to troubleshoot and iterate API design based on evolving gameplay needs.
 - Implemented CI/CD pipelines using GitLab and Docker; maintained a Jest and Playwright test suite achieving 90%+ code coverage.
 - Supported live ops with incident monitoring and debugging, increasing service uptime to 99.9%.

PROJECTS

- Your Search Box AI Powered Widget** (Personal) | Node.js, React, NLP, AI Present
- Built AI-driven search bar with voice and image-based search, improving UX for e-commerce platforms.
 - Integrated with CMS platforms (Shopify, WordPress) and deployed using CI/CD, handling 10K+ queries/week with <150ms latency.
- Webability Compliance Website** (Personal) | CSS, ADA, WCAG Present
- Developed accessibility features including contrast toggles, font scaling, keyboard navigation
 - Achieved 80% performance improvement by optimizing JS bundle size and lazy-loading modules.
- Recommendation System for VR Experiences** (Personal) | Python, TensorFlow, Jupyter, Pandas March 2025
- Designed hybrid recommendation engine using collaborative + content-based filtering; improved user satisfaction scores by 22%.
 - Processed 50K+ data points using Pandas and visualized insights to guide UX recommendations.
- Order Management Desktop App** (Academic) | Java, OOP, JSON, JUnit September 2024
- Built order tracking system with CRUD operations, integrated with JSON persistence, and achieved 95% test coverage via JUnit.
 - Reduced manual order processing errors by 40%.

SKILLS

- Languages & Frameworks:** TypeScript, JavaScript, Node.js, Java, Python, C++, Express.js
- Backend & Cloud:** REST APIs, Firebase, Docker, GitLab CI/CD, Kubernetes, AWS (EC2, S3, Lambda), GCP (basic), Linux
- Frontend/UI:** React.js (Hooks), Next.js, Material UI, HTML5, CSS3, Redux, Formik, React Hook Form
- Testing & Automation:** Jest, Playwright, Mocha, Test-Driven Development, Chrome DevTools
- Infrastructure & Architecture:** Microservices, API Design, Module Federation, Monorepo, Prometheus
- Tools:** GitHub, Visual Studio Code, Agile/Scrum, JIRA, Slack