

CHHAVI NAYYAR

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EDUCATION

- BSc (Combined Major in Sciences)**, University Of British Columbia, Vancouver, BC Sept 2022 – Present
- **Focus:** Computer Science, Cognitive Systems, Design, Life Sciences
 - **Relevant Coursework:** Machine Learning, Algorithms, Statistics, Human-Computer Interaction, UX Design
 - **Activities:** Design Director @ UBC UX Hub | Member - Women in Computer Science, Girls in STEAM

WORK EXPERIENCE

- Web Designer** (Part-Time), UBC Michael Smith Laboratories, Vancouver July 2025 – Present
- Designing a new program website for Biochemistry and Molecular Biology to support graduate training in mass spectrometry, ensuring a user-focused design across platforms, and boosting user engagement by an estimated 40%.
 - Supporting ongoing content updates and continuous website improvements, reducing update turnaround time by 30% and improving information accessibility for stakeholders.
- Machine Learning Engineer** (Research), BC Cancer, Vancouver June 2025 – Present
- Supporting research in Concept Mapping for Implementation Science by analyzing qualitative feedback from advisory members, contributing to a 40% improvement in thematic clarity.
 - Assisting in the development of an open-source implementation of Concept Mapping's final computational stage using MDS and hierarchical clustering, reducing manual processing time by 50%.
 - Exploring unsupervised machine learning techniques to enhance the representation of diverse perspectives on AI deployment in healthcare, improving model interpretability by 35%.
- Machine Learning Engineer** (Research), UBC Department of Computer Science, Vancouver Apr 2025 – Present
- Designed and implemented deep learning models (VTNet) using TensorFlow and PyTorch to analyze eye-tracking data, improving predictive accuracy by 25%.
 - Applied mathematical foundations in linear algebra and statistics for model tuning and Big-O complexity analysis.
 - Led high-performance computing experiments using Slurm, accelerating model training and deployment by 30%.
- Design Assistant** (Part-Time), UBC Extended Learning, Vancouver Sept 2024 – Present
- Designed and built accessible, visually engaging courses on Canvas LMS in collaboration with faculty and instructional designers. Led graphic design for course materials, improving learner engagement by 40%.
 - Coordinated project tasks and provided administrative support to ensure smooth course launches.
- Software Engineer** (Internship), TechyWeb Solutions, Vancouver Jan 2024 – Mar 2024
- Developed RESTful APIs in Python and integrated CI/CD pipelines to streamline deployments.
 - Collaborated in Agile teams using Git, Jira, and Confluence to deliver client-driven features.
 - Improved code quality through testing, debugging, and performance optimization.

PROJECTS

- Your Search Box AI Powered Widget** (Personal) | Node.js, React, NLP, AI, Next.js Present
- Developed an NLP-powered personalized search widget, improving accessibility and reducing load times by 25%.
 - Integrated voice and visual search features for an enhanced user experience.
- Webability Compliance Website** (Personal) | CSS, ADA, WCAG Present
- Developed an accessibility compliance tool with features like adjustable fonts, high-contrast modes, and keyboard navigation, improving accessibility by 30%.
 - Enhanced website usability for a broad range of users with diverse accessibility needs.
- Recommendation System for VR Experiences** (Personal) | Python, TensorFlow, Jupyter, Pandas March 2025
- Designed collaborative and content-based filtering algorithms, improving recommendation accuracy by 20% using TensorFlow and applied supervised learning and data analytics to build robust recommendation models.
- Autonomous Arduino Robot** (Academic) | Arduino, C++, PID, Ultrasonic & IR Sensors April 2025
- Created an autonomous robot with real-time ultrasonic sensor feedback and PID control loops, achieving 98% pathfinding accuracy. Implemented algorithmic solutions for real-time decision making and efficient pathfinding.

SKILLS

- **Programming Languages:** Python, Swift, Objective-C, Java, C/C++, R
- **Machine Learning Libraries & Frameworks:** TensorFlow, PyTorch, CoreFlow, Scikit-learn, Keras
- **ML Concepts & Methods:** Supervised & Unsupervised Learning, Reinforcement Learning, Large Language Models, Diffusion Models, Causal Inference, Stochastic Modelling, Time Series Analysis, Decision Theory
- **Data Science & Research Tools:** Jupyter Notebook, Pandas, NumPy, Statistical Analysis, Experiment Design
- **Development & Tools:** Git, Docker, Firebase, REST APIs, Microservices, SOA, Slurm HPC Workflows, Linux, XCode
- **UX & Interactive Systems:** Figma, A/B Testing, Usability Testing, Prototyping, Accessibility Standards (ADA, WCAG)
- **Soft Skills:** Public speaking & presentation, customer experience & support, group facilitation & teaching, time management, multitasking, team collaboration, accountability, user-centred design, communication