Chhavi Nayyar

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Education

University of British Columbia (UBC), Vancouver, BC _Sept 2022 – Present_
BSc, Combined Major in Sciences — _Computer Science, Cognitive Systems, Design, Life Sciences_
Relevant Coursework: Distributed Systems, Algorithms, Databases, Machine Learning, Web Development
Activities: Design Director – UBC UX Hub, Member – Women in CS, Girls in STEAM

Work Experience

Web Developer _July 2025 – Present_
UBC Michael Smith Laboratories – Vancouver, BC

- 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 _June 2025 – Present_
BC Cancer – Vancouver, BC

- 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
- Exploring unsupervised machine learning techniques to enhance the representation of diverse perspectives on AI deployment in healthcare, improving model interpretability by 35%.

Deep Learning Engineer _Apr 2025 – Aug 2025_
UBC Department of Computer Science – Vancouver, BC

- Designed and implemented deep learning models (VTNet) using TensorFlow and PyTorch to analyze eye-tracking data, improving predictive accuracy by 25%. Applied math foundations for tuning and Big-O complexity analysis.
- Led high-performance computing experiments using Slurm, accelerating model training and deployment by 30%.

Design Assistant _Sept 2024 – Aug 2025_
UBC Extended Learning – Vancouver, BC

- 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 Intern _Jan 2024 – Mar 2024_
TechyWeb Solutions – Vancouver, BC

- 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 — Node.js, Express, React/Next.js, SSR, NLP _2025 – Present_

- Built a server-rendered search service with voice/image/text inputs; designed API contracts and validation.
- Integrated with headless CMS (Shopify/WordPress) via adapters and environment-driven configuration.

Concept Mapping Tool — Python, NetworkX, FastAPI, Plotly _2025_

- Developed a toolkit for analyzing and visualizing complex data in healthcare research using concept mapping.
- Implemented MDS and hierarchical clustering to identify patterns, reducing manual analysis by 50%.

VR Recommender — Python, TensorFlow, Flask API _2025_

- Implemented hybrid collaborative+content models with cosine similarity; wrapped models behind a Flask endpoint.
- Added batch inference and caching of frequent queries; improved offline metrics (F1/precision) by 20–25%.

Skills

- **Languages:** Node.js/JavaScript, Go, Java, Python, C++, SQL, React, TensorFlow, PyTorch, Swing, HTML/CSS
- **Backend:** REST APIs, Express/Flask, FastAPI, AuthN/AuthZ, validation, observability (logging/metrics)
- **Data/Storage:** SQL (Postgres/MySQL), JSON/CSV pipelines; basics of NoSQL (key-value/doc)
- **Design Tools:** Figma, Framer, Adobe XD, Canva
- **Systems:** Docker, Git, CI/CD (GitHub Actions), Linux, Slurm; cloud familiarity (_AWS EC2/S3 basics_)
- **Concepts:** Distributed Systems, Caching, Rate Limiting, Idempotency, Testing (unit/integration)