

Arnav Khare

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Professional Experience

Research Assistant

January 2025 - June 2025

University of Washington, School of Built Environments

Seattle, WA

- Addressed inefficient manual evaluation processes by uplifting the yearly activity report (YAR) system into a complete product, applying SDLC principles including requirements gathering, design, development, testing, automation, and deployment, enabling streamlined faculty performance tracking
- Implemented CRUD operations with MongoDB, managing faculty records and evaluation forms with 100% data integrity
- Deployed application using Netlify and Windows VM

Software Engineering Intern

June 2024 - September 2024

T-Mobile, Subscriber Event Listener Team

Bellevue, WA

- Tackled time-intensive manual customer data analysis by building an end-to-end AI-powered data visualization tool processing customer data across 4 microservices leveraging Azure OpenAI, reducing graph query time from 1-2 hours to 5-10 seconds
- Implemented FAISS vectorstore with LangChain for semantic search across 10 million customer records achieving sub-second query times, and developed autonomous visualization agent generating 10+ graph types from CSV, Excel, and JSON formats
- Designed and implemented Springboot end-to-end authentication system with bearer token security for subscriber lookup, collaborating with cross-functional teams to ensure secure and user-friendly software solutions

Full-Stack Software Engineering Intern

June 2023 - September 2023

GOLS, 360 Peer-Review Team

Seattle, WA

- Resolved inefficient peer-feedback analysis tool by building a full-stack web application leveraging OpenAI API and MySQL Database to display key findings and automate comment management, reducing feedback processing time and improving user experience
- Developed back-end API using Node.js to update the database with user information
- Developed front-end HTML/CSS code implementing 6 UI design sketches for comment management

Personal Projects

GnomeAI | *React, AWS Lambda, Python, Amazon RDS, MySQL, Docker*

- Built a serverless user authentication system using React frontend, AWS Lambda (Python) backend, and Amazon RDS MySQL database, implementing bcrypt password hashing with salt to ensure industry-standard security practices
- Engineered AWS Lambda Layers with Docker to package Linux-compatible Python dependencies (bcrypt, pymysql), resolving cross-OS compatibility issues between Windows development and Amazon Linux runtime environments
- Designed normalized SQL database schema and integrated frontend authentication flows using React hooks and RESTful API endpoints, managing secure credential storage with environment variables

Safe Huskies | *React, Node.js, OpenStreetMap API, JavaScript*

- Developed a campus transit safety application serving students with real-time tracking of 4 bus routes and arrival estimates using OpenStreetMap API to enhance student transportation security and route planning

IPL Cricket Analysis | *Python, Plotly, Scikit-learn, Pandas*

- Analyzed 74+ matches spread across 10 teams from 2022 IPL batting and bowling data using Plotly visualizations and trained a Scikit-learn model achieving 72% prediction accuracy to identify winning factors and predict the league champion

Search Engine | *Python, FastAPI, TF-IDF*

- Developed a Python backend API simulating a search engine indexing 15+ documents with approximately sub-150 millisecond query response time using TF-IDF calculations and inverted indices to retrieve the most relevant documents from a corpus based on user queries

Education

University of Washington

Seattle, WA

B.S. Informatics, Data Science, Software Development — GPA: 3.71

Expected Graduation: June 2026

- Courses: Data Structures, Algorithms, Data Modeling, Data Science, Multivariable Calculus, Linear Algebra, Probability Analysis, Software Architecture, Data & Computer Security, Server-Side & Client-Side Development, Database Design and Management, Advanced Methods in Machine Learning

Technical Skills

Programming Languages: Java, Python, SQL, JavaScript, R, TypeScript, Go, HTML5, CSS

Frameworks & Libraries: React, Node.js, Springboot, FastAPI, ExpressJS, LangChain, Pandas

AI/ML: Deep Learning, NLP, Classification, RAG, Scikit-Learn, NumPy, TensorFlow, PyTorch

Databases & Cloud: MySQL, MongoDB, Cassandra, FAISS, Pinecone, ChromaDB, RDBMS, AWS, Azure

DevOps & Tools: GitHub Actions, ArgoCD, Docker, Kubernetes, Jenkins, Apache, CI/CD, Git, VS Code, Figma

Involvement

UWAwaaz A Cappella Team

September 2022 - Present

Lead Soloist & Finance Head

Seattle, WA

- Lead soloist for a Western and Bollywood fusion a cappella team, performing at university and community events across the US
- Manage \$8000 annual budget, coordinating fundraising and expense tracking for competitions
- National champions 2025