Amit Kumar Patel

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EDUCATION

University of South Dakota — Vermillion, SD, USA
MS in Computer Science - Artificial Intelligence — *Aug. 2024 – Present*

IOE, Pulchowk Campus, Tribhuvan University — Lalitpur, Nepal
Bachelor's Degree in Computer Engineering — *Nov. 2014 – Sep. 2018*

EXPERIENCE

Senior Software Engineer II — Oct. 2023 – Aug. 2024
LIS Nepal — *Lalitpur, Nepal*

- Designed and implemented robust web application(chat application) and APIs using Nextjs and Python (Django).
- Built scalable data pipelines to support AI-Assisted research and business analytics using OpenAI, Hugging Face, LlamaIndex, etc.
- Mentored junior developers and ensured engineering best practices.

Software Developer — Aug. 2022 – Present
Toptal — *Remote*

- Accepted onto Toptal, a platform known for its rigorous selection process, which assesses technical expertise, problem-solving, and communication skills. This achievement highlights my ability to perform at a high level, even with comparatively less experience.

Freelancer — Mar. 2022 – Oct. 2022
Freelance — *Remote*

- Developed and maintained highly intuitive and scalable UI/UX components using Vanilla JavaScript, SCSS, Jinja.
- Developed a web application for an AI-powered hair density tracking and remedy recommendation system, enabling users to monitor hair health and receive personalized solutions using React and Python.
- Implemented best practices with considerations for web vitals, ADA compliance, etc.
- Collaborated with cross-functional teams to meet project requirements.

Senior Software Engineer — Aug. 2021 – Feb. 2022
LIS Nepal — *Lalitpur, Nepal*

- Developed a compliance management system using React and Python to track associate activities and automatically raise flags and alerts for potential violations, ensuring adherence to regulatory standards.
- Developed compliance management software to track gift exchanges and financial transactions via Plaid, enabling submission and review of marketing materials for compliance officers across 5+ locations, with role-based access for managers and employees.
- Built an internal project management tool for my company to manage projects, resources, sprints, and time sheets, while adding multiple REST API endpoints to support data needs of the React app and resolving bugs in time tracking.

Software Engineer — Aug. 2020 – Aug. 2021
LIS Nepal — *Lalitpur, Nepal*

- Developed a time critical SaaS product for retailers with over 1,000 locations across multiple time zones, including a back office, order interface, location service, and pickup scheduling service. The solution addressed time zone-specific requirements, provided data insights, and integrated Google Maps for location accuracy.
- Created a React Native visualization mobile app to monitor ETL batch processes in Snowflake, developed REST APIs with Python Flask, and implemented push notifications via Firebase.
- Integrated a local payment gateway into the Trade Management System (TMS) and built an auction engine for a stock exchange platform to match buy-and-sell orders during market sessions.

Associate Software Engineer — May 2019 – Aug. 2020
LIS Nepal — *Lalitpur, Nepal*

- Developed an Android application for rating businesses, where business ranking was done based on user reviews added to the app and the transaction data were retrieved via the Plaid API.
- Published several versions of the Android application on the Play Store.
- Configured Xstore for the client using the Oracle POS system as a base.

Projects

Inteliome, AI Chatbot | *Next.js, Python (Django), LLM (Hugging Face, LLamaIndex, OpenAI), NextAuth, Tailwind*
- Developed an intelligent chatbot leveraging large language models for efficient analytics.

Premium Sites, Legalfit CRM | *HTML, SCSS, JavaScript, Jinja, Web Vitals*
- Enhanced user experience for a legal CRM tool through custom front-end solutions. Developed highly intuitive and responsive UI components.

My Hair Counts, Hair Density Tracker | *React.js, Firebase*
- Built a hair density tracking application with real-time updates and cloud storage. The system used this data to analyze and recommend remedies to the users.

Gocchii | *React.js, React-Query, Reduxc-Saga, MUI, Plaid*
- Built a compliance management application with compliance rules and triggers.

Nepal Stock Exchange, Trade Management System | *Java, Angular, Redis, Jenkins, JUnit, Mockito*
- Designed and implemented a comprehensive trade management system for the Nepal Stock Exchange.
- Optimized backend processes for seamless data and financial transaction handling.
- Added test cases for payment gateway.

Curbside Pickup, Contactless Retail Solution | *Node.js, EJS, REST API, MySQL*
- Developed a contactless retail pickup solution during the pandemic, integrating RESTful APIs with robust database designs.
- Streamlined user flows to enhance the retail experience for customers.

Project Management and Timesheet | *React.js, Php(Laravel), PostgreSQL*
- Built a project management application with time tracking.

Auction Engine | *Java, Angular, Scala,Redis, Shell Script, MS SQL, Rabbit MQ, Jenkins, Docker*
- Implemented auction engine to facilitate auction market session for Nepal Stock Exchange.

Xstore Implementation | *Java, XML, POS, Retail*
- Implemented customization for Oracle Xstore Retail POS for a large retailer in the US.

Robling App | *React Native, Python, Firebase*
- Built mobile application for ETL visulation and monitoring with push notifications.

OpinionShield | *Android(Java), RxJava, Retrofit, In App Purchase*
- Built android application rating and recommending businesses.

Publications

- Robin Narsingh Ranabhat, Longwei Wang, **Amit Kumar Patel**, K. C. Santosh, *Promoting Shape Bias in CNNs: Frequency-Based and Contrastive Regularization for Corruption Robustness.* arXiv:2509.11355, 2025. https://arxiv.org/abs/2509.11355, **3rd Best Paper Award**

Technical Skills

- **Languages:** JavaScript,TypeScript, Node, Python, Java, PHP, SQL, C++, C

- **Frameworks:** React,Next.js, Django, Flask, React Native,Laravel, Xstore, Angular, FastAPI, Shadcn, Tailwind, Scss, HTML, Express, React-Redux, Redux-Saga, Embedded JavaScript, React-Query, Sequelize, Keras, PyTorch, TensorFlow

- **Tools and Platforms:** Docker, Jenkins, Firebase, Android Studio, VS Code, Colab, Notebook, Keras, Tensorflow, Hugging Face, LlamaIndex, Kafka, Jira, Slack, Teams, Google Maps

- **Databases:** PostgreSQL, MySQL, Redis, MongoDB, DynamoDB

- **AI/ML:** TensorFlow, PyTorch, Keras, Scikit-learn, Hugging Face Transformers, LLMs (GPT, LLaMA, Falcon, Mistral, OpenAI APIs), Transfer Learning, Fine-tuning, Prompt Engineering, RLHF, RAG (LlamaIndex, LangChain), CNNs, U-Net, Image Segmentation, Object Detection, Text Classification, NER, Topic Modeling, Sentiment Analysis, Video Understanding

- **Technologies:** REST APIs, GraphQL, Machine Learning, Blockchain, Android, Large Language Models, Retail, POS