

Abhijeet Poudel

Software Engineer

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Skills

Languages: TypeScript, Go, Python, Dart, SQL, HTML, PHP, \LaTeX

Frameworks: Fiber, FastAPI, Gin, Hono, React/NextJS, NumPy, Torch, TensorFlow

Databases & DevOps: AWS, Cloudflare, Kubernetes, Terraform, Docker, ArgoCD, Postgres, Neo4j, Redis, GitHub Actions

Miscellaneous: Linux, Vim, Shell (Bash/Zsh/Fish), Git, Tmux

Work Experience

Grepsr

Associate Delivery Engineer

Nepal

Apr 2024 – Present

- Junior (Apr 2024) to Associate.
- Architected and deployed scalable web crawlers processing 120+ high-traffic dynamic websites, extracting structured data at 95% accuracy rate.
- Designed AI-driven data pipelines using Transformer models (BERT, GPT-based) for semantic analysis and enrichment of scraped datasets, delivering client-tailored data products with 98% fidelity.
- Developed custom Chromium automation frameworks with advanced fingerprinting and request evasion techniques, achieving 80% bypass rate against sophisticated anti-bot systems.
- Engineered large-scale audio extraction pipeline reducing processing time by 30% while improving data quality by 50%.
- Led development of AI-powered browser extension for automated data extraction, reducing crawler development lifecycle by 60%.
- **Technical Skills:** Go, TypeScript, PHP, Python, Pandas, Browser Automation, Anti-Bot Evasion, Transformer Models, Chromium, Data Engineering, Linux, Git

Projects

AaryaPay: Offline Peer-to-Peer Payment Protocol

Feb 2023 – May 2023

- Architected a decentralized, offline-first peer-to-peer payment protocol enabling trust-less transactions in low-connectivity environments.
- Designed and implemented backend services using Golang (Gin) and SQLx, handling concurrent transaction processing with PostgreSQL and Redis.
- Built cryptographic libraries for payload signing and verification using RSA/AES, ensuring end-to-end security for both client and server.
- Engineered Gitlab CI/CD pipelines for automated unit testing, Docker image builds, and zero-downtime deployments.
- Instrumented observability stack with Tempo, Loki, and Grafana for distributed tracing, centralized logging, and real-time visualization.
- **Technical Skills:** Golang, Dart, PostgreSQL, Redis, Docker, Cryptography (RSA/AES), Git, Grafana, Tempo, Loki

Norma: Reinforcement Learning for Baghchal

Jul 2022 – Dec 2022

- Designed and trained a Q-learning based reinforcement learning model for Baghchal, an asymmetric multi-agent board game, achieving victory rates exceeding 65% against human players.
- Developed full-stack web application with real-time multiplayer support, AI opponent integration, and offline gameplay modes using Next.js and FastAPI.
- Implemented min-max based assistive agent to accelerate RL model training, reducing convergence time by 40%.
- Optimized data collection pipelines using Pandas for generating high-quality training samples, improving model stability and performance.
- **Technical Skills:** Python, TensorFlow, Pandas, Next.js, FastAPI, React, Docker, Git

Sikshyalaya: Online Learning Management System

Feb 2021 – Jun 2022

- Founded and led end-to-end development of a scalable LMS platform serving 500+ students across web and mobile interfaces.
- Architected RESTful API backend using FastAPI and PostgreSQL with optimized database schemas for high-throughput queries.
- Built responsive UI components in React.js and integrated with SMTP email service and distributed file storage system.
- Coordinated cross-functional team of 4 developers, managing sprint planning, code reviews, and Agile workflows.
- **Technical Skills:** React, Python, Flutter, Dart, FastAPI, PostgreSQL, Docker, SMTP, Git

Education

Kathmandu University

Bachelor of Science in Computer Science

Aug 2019 – 2024

Kavre, Nepal

CGPA: 3.76 / 4.0

Relevant Coursework: Discrete Mathematics, Theory of Computation, Computer Architecture, Data Structures, Algorithm and Complexities, Operational Research, Statistical Theory and Models, Artificial Intelligence, Computer Vision, Cloud Computing, System Design

Publications

Enhancing Usability and Reliability in Digital Payment Platforms

International Journal of Human-Computer Interaction, 2024

doi.org/10.1080/10447318.2024.2353959

Baghchal: An Augmented Q-Learning Approach to Turn-Based Multi-Agent Systems

8th International Conference on I-SMAC, 2024

doi.org/10.2139/ssrn.4683084

Certifications

- Google Data Analytics Professional Certificate – Coursera, 2024
- IBM Full-Stack Developer Professional Certificate – Coursera, 2024