Prakriti Bista

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EDUCATION

George Washington University, SEAS — Washington, DC
M.S. Computer Science (Machine Learning & Cognition); GPA 3.9/4.0 — *Aug 2024 – May 2026*

Tribhuvan University — Kathmandu, Nepal
B.Sc. Computer Science and Information Technology; GPA 3.9/4.0 — *Oct 2017 – May 2022*

PROFESSIONAL EXPERIENCE

Simply Software Technologies — Kathmandu, Nepal
Software Engineer — *Apr 2022 – Jul 2024*
- Engineered scalable REST and GraphQL APIs using Node.js and Python, serving predictive analytics to **100k+ end users** across **4 government departments**
- Built ETL data pipelines to integrate heterogeneous datasets; led MEAN stack development reducing data entry errors by **37%** through automated validation
- Optimized frontend performance for data-intensive dashboards, reducing page load latency by **20%** through efficient state management and lazy loading

Flockfysh (AI Startup) — Remote
Software Engineer & Product Designer — *Oct 2022 – Dec 2023*
- Early engineer at startup backed by **Z Fellows** (<1% acceptance) and **UC Berkeley SkyDeck**; designed and built the MVP that secured **$10,000 in pre-seed funding**
- Developed full-stack internal dashboards using **FastAPI + React** to monitor real-time ML labeling throughput and system health metrics
- Streamlined dataset annotation workflows and QA pipelines, cutting cycle time by **60%** and accelerating model training iteration

The George Washington University — Washington, DC
Student Program Coordinator & Technical Support — *Feb 2025 – Present*
- Manage 15+ student staff and operations across Academic Commons and CREATE Digital Studio
- Maintain 95% uptime for 3D printing, VR/AV equipment, and high-performance computing systems
- Provide IT support for the School of Nursing, managing asset procurement and troubleshooting

TECHNICAL PROJECTS

SEAS Search – GenAI Academic Advisor | *Python, Llama 3.1, LangChain, RAG, Vercel* — Link
- Architected a Knowledge Graph-RAG system with vector database, achieving **34% accuracy** on multi-hop reasoning; fine-tuned LLM with LoRA using **14x less data** and **25x faster** training
- Deployed production full-stack application on **Vercel** with real-time semantic search, comprehensive error handling, and CI/CD pipeline

Special-SAM – Foundation Model Fine-Tuning | *Python, PyTorch, Computer Vision* — Link
- Fine-tuned SAM ViT-H (**636M parameters**) on **12,000 augmented images**, improving mIoU from 47.52% to **66.35%** – an **18.83-point gain**
- Implemented combined loss function (BCE + Dice) and multi-prompt training strategy, achieving **25.4% loss reduction** with stable convergence; conducted comparative analysis across 3 specialized datasets

Nepal Earthquake Building Damage Predictor | *Python, LightGBM, Scikit-learn, Streamlit* — Link
- Built multi-class classifier on **260k+ records** achieving **72.5% accuracy** and **0.880 ROC AUC**; engineered features from structural/geographic data and deployed interactive Streamlit application

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, SQL, C/C++, HTML/CSS, Dart
Frameworks & Libraries: React, Next.js, Node.js, FastAPI, Angular, Flask, GraphQL, Scikit-learn, PyTorch, TensorFlow
Cloud & DevOps: AWS (EC2, S3), Docker, Kubernetes, Red Hat OpenShift, CI/CD, Git, Linux
Databases & Tools: PostgreSQL, MongoDB, Firebase, LangChain, Hugging Face, Jira, Tableau
Certifications: Red Hat OpenShift Administration (DO180), AWS Academy – Cloud Operations & Foundations