Naman Bajpai

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Education

Drexel University Philadelphia, PA
Bachelor of Science in Computer Science; Minor in Entrepreneurship; GPA :3.16 Sep. 2023 – Jun. 2028

Skills

Programming Languages: Python, JavaScript, Swift, Objective-C, C, Rust, HTML, CSS, SwiftUI, Go, Java
Frameworks: Node.js, Flask, Django, FastAPI, SwiftUI, React, Next.js, Docker, Kubernetes, Firebase, MongoDB, PostgreSQL
Machine Learning: TensorFlow, Keras, PyTorch, scikit-learn, OpenCV, pandas, Deep Learning, LangChain, AI Agents
Cloud Systems: Google Cloud, AWS, Azure, Linux Systems and Servers, Microservices, Distributed Systems
Software & Tools: Git, Agile , Power BI, SQL, Excel, Slack, Discord, Jira, GitLab, Xcode, VisualStudioCode

Experience

EncryptechAI Remote
Founder *Oct 2023 – Present*
- Launched the Mycelium Protocol, introducing a decentralized AI and federated learning platform leveraging Fully Homomorphic Encryption (FHE) on the Avalanche blockchain, boosting data privacy by 40%
- Engineered SpyderVM, a custom virtual machine built with Rust, Solidity, and Golang; facilitated seamless deployment of smart contracts while achieving on-chain management of machine learning models that cut operational costs by 3x.
- Collaborated with MIT Media Lab to integrate tokenization mechanisms, creating secure, transparent, and incentivized ecosystems for federated learning, driving advancements in decentralized AI and privacy-preserving machine learning.

Beckn Protocol Bengaluru
AI internship *Jun. 2024 - Aug. 2024*
- Led a team of 4 contributors in developing an open-source transaction client, enabling AI agents to autonomously transact with the internet and the Beckn Protocol,automating over 5000 transactions daily
- Built a knowledge base solution by processing over 50GB of data to create an AI agent, significantly reducing on boarding time from 3 months to 5 days on the Beckn platform
- Implimented a chatbot that facilitates item orders via the Beckn Protocol and a developer assistant powered by an extensive knowledge base.

ClassCut Philadelphia, PA
Team Lead *Nov. 2023 – Oct. 2024*
- Supervised ML and technology teams in developing LSTM, RNN, KNN, and RAG models with over 40M parameters each, focusing on FERPA compliance, video editing, and virtual assistants
- Scaled a website using Next.js and React.js to facilitate mass media uploads and processing, integrating ffmpeg for browser-based media handling via local databases, supporting over 5,000 uploads daily
- Managed a team of four in implementing CI/CD practices for Swift mobile app development, enhancing HLS video streaming and SwiftUI scrolling, and reducing loading times by 4 seconds, improving user engagement by 20%
- Managed a local Ubuntu Linux server processing 50k database queries and 50 ML inferences daily, and spearheaded the migration from AWS to local servers, enhancing performance by 31.2% and cutting costs by 23.7%

Dynamic Rocketry Mumbai, India
Founder & Advisor *July 2021 – Present*
- Founded and scaled aerospace startup to 40-member team, specializing in solid rocket motors and cold gas thrusters
- Implemented ML models to enhance 3D printer quality by 24% and developed Bolt-1 motor with 15% higher thrust
- Optimized operations using Power BI analytics, reducing lead times by 27% and operational costs by 13%

Papers & Research

Improving Machine Learning-Based Crime Prediction for the City of Philadelphia Oct. 2024
Enhanced crime prediction models by 17% through advanced ML techniques, identifying location and time as key predictors to provide actionable insights for policymakers.

Relative stress calculation using eulerian vision and temporal filtering Oct. 2022
Developed a method combining Eulerian magnification and temporal filtering, achieving over 80% accuracy in stress detection and highlighting applications in high-stress environments such as exams and corporate offices.

VIP Research Project – Urban Traffic Planning Sep. 2023 – Present
Conducted research on traffic congestion using LSTM, Transformers, and KNN models, developing novel algorithms for predictive, data-driven traffic management, reducing traffic jams by 18% and enhancing urban planning.

Projects & Achievements

ICPC North America Qualifier 2024 – 2nd Place, Drexel Nov. 2024
HackMIT 2024 – Codebase Track, 2nd Place, MIT Oct. 2024