

# Prashan Sapkota

Nashville, TN | [psapkota27@my.fisk.edu](mailto:psapkota27@my.fisk.edu) | [LinkedIn](#) | [GitHub](#) | [prashansapkota.com](http://prashansapkota.com)

## EDUCATION

### Fisk University

Expected Graduation: May 2027

Bachelor of Science in Computer Science | GPA: 3.86/4.00

- **Relevant Coursework:** Data Structures and Algorithms (DSA), Natural Lang Process & Apps (NLP), Database Management, Operating Systems, Computer Architecture, Machine Learning, Programming Languages, Computer Organization
- **Honors:** Provost Scholar-Fisk University (Full-Tuition), Fisk Dean's List, **2X** Hackathon Winner

## TECHNICAL SKILLS

**Languages:** Python, JavaScript (ES6+), TypeScript, Java, SQL, C++, R, Go

**Frameworks and Libraries:** React, Next.js, Flask, Django, Express, .NET, Node.js, FastAPI, WebSockets, REST APIs

**Cloud/Infra:** Amazon Web Services (AWS), Azure, Google Cloud Platform (GCP), Docker, Kubernetes, CircleCI

**Developer Tools:** Git, Postman, PostgreSQL, MongoDB, OAuth 2.0, JWT, Unit/Integration Testing, Jira, Linux

## EXPERIENCE

### Zof AI (Early-Stage Startup)

Jun 2025 – Aug 2025

Software Engineering Intern

San Francisco, CA (Remote)

- Established the company's first deployment infrastructure for **20+** services using **Docker** and **AWS ECS Fargate**, resolving critical issues including architecture mismatches and missing health check endpoints to achieve **zero-downtime** releases
- Architected end-to-end Continuous Integration/Continuous Delivery (**CI/CD**) pipelines with **AWS CodePipeline** with automated testing gates, reducing deployment time to **under 4 minutes**
- Developed the frontend of a scheduling platform using **Next.js** and **Tailwind CSS**, implementing a **4-stage** multi-step form with dynamic pricing across **3** tiers, supporting **100+** booking requests per week and automating business scheduling
- Collaborated with cross-functional team members through code reviews and agile issue triage, developing comprehensive test suites (unit, integration, E2E) covering **85%+** of core workflows to ensure feature validation prior to deployment.
- Migrated **10+** production AI agents from AWS to Azure (AKS) in **14 days**, re-architecting CI/CD pipelines and configuring Load Balancers to utilize **\$100K+** in pre-secured Azure credits and eliminate unnecessary AWS costs

### Vanderbilt University (VINE Lab)

Jun 2025 – Aug 2025

Software Engineering Intern

Nashville, TN

- Engineered a **Streamlit** tool in **Python** to automate image preprocessing and annotation with thresholding and morphological filtering, reducing time from **60 minutes to 30 seconds** per image (**120x** efficiency) across **1K+** microscopy samples
- Created a reusable image-processing pipeline using **PyTorch** and **UNet** that handled large images via patching and stitched outputs, achieving **96%** precision across **3K+** particles and exporting results as CSV/JSON with visual overlays
- Implemented **IoU/precision**-based evaluation to calibrate segmentation thresholds, improving mask accuracy by **18%**

## PROJECTS

### FiskConnect – Alumni Activation Platform (Winner, Fisk Future Hackathon) | Website

Feb 2026

Next.js, Pinecone, FastAPI, TypeScript, Retrieval-Augmented Generation (RAG), Supabase

Nashville, TN

- Researched that only **9%** of graduates strongly agree alumni helped them secure employment, revealing an engagement gap; built a full-stack alumni activation platform using **Next.js** in a **12-hour** hackathon, indexing **500+** profiles
- Led the architecture of a **RAG**-powered semantic search system using **Pinecone** and **FastAPI**, retrieving the top **20** relevance-ranked alumni matches per natural-language query with **<500ms** latency
- Designed for integration with **Fisk's Ellucian Colleague SIS** via role-based authentication and **API**-driven architecture; validated with **26** users, reducing manual alumni search time and winning the hackathon (**\$500**) among **50** participants

### Naksha – AI Campus Navigation System | Website

Aug 2024 – Dec 2024

Next.js, TensorFlow, Maps API, MongoDB, FastAPI, Vercel, Postman

Nashville, TN

- Identified campus navigation confusion where students couldn't distinguish buildings by appearance, leading to potential trespassing; Fine-tuned a custom **YOLOv8** object detection model on **2000+** building images achieving **91%** precision
- Built Naksha, a full-stack web application using **Next.js**, integrating the model via **FastAPI** backend with **MongoDB** for building data and OAuth2/JWT authentication, reducing **API** latency by **23%** through caching and async inference
- Deployed via **GitHub Actions** and **Vercel** with **99%** uptime; integrated **Google Maps API** with interactive markers across **10+** campus buildings

### Warhawks – Mobile Virtual ID and Verification System (Winner, ULM Hawkathon) | Website

Apr 2024

React, CSS, Figma, Node.js, EmailJS, Firebase

Monroe, LA

- Analyzed a survey of **16** students identifying forgotten physical IDs as a campus access barrier; led a team of **4** to build Warhawks, a **React**-based mobile virtual ID system enabling secure digital access
- Integrated a **Firebase**-backed platform with secure photo/video verification for identity confirmation and added a virtual lost-and-found system, reducing item recovery time by **83%** through testing with **14** peer users

## LEADERSHIP EXPERIENCE

### xTECH HBCU Student Competition, Winner (U.S. Army) | Prototype

Oct 2024 – May 2025

- Constructed a real-time 3D QKD simulation for autonomous vehicle communication using **React**, **TypeScript**, and **Three.js**, integrating eavesdropper detection and building a prototype that secured **\$10,500** in development funding