SAHITH BODLA

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EDUCATION

University of Illinois at Urbana-Champaign *August 2022 – May 2025*

- *BS-MCS in Computer Science with Minor in Economics*
- *Relevant Courses: Data Structures, Computer Architecture, Applied Machine Learning, System Programming, Algorithms, Database Systems, Adv. Distributed Systems, Wireless Networks, App. Parallel Programming, Computer Security, Programming Languages & Compilers*

WORK EXPERIENCE

Gen Digital, *Software Engineer Intern* *June 2024 – August 2024*

- Developed and deployed an AI-driven scam detection email scanner, leveraging Norton's proprietary LLM-based NLP model Genie to analyze phishing patterns and achieve a 80% accuracy rate in identifying fraudulent emails
- Configured models to balance accuracy, costs, and Lambda execution time, optimizing response speeds and minimizing cloud computing expenses
- Implemented scalable AWS solutions, utilizing Lambda, Step Functions, IAM, and Key Stores to streamline DevOps efficiency and system reliability
- Collaborated closely with infrastructure and UX teams for integration, ensuring seamless real-time detection without disrupting end-user workflows
- Acquired expertise in optimizing ML models for real-world applications, emphasizing low-latency inference, serverless deployment, and Agile development practices

OneSpace, *Cofounder, Full-Stack Engineer* *February 2023 – present*

- Developed LangChain and GPT-3 document assistant that analyzes PDFs, enabling context-aware annotations, summarization, and note creation
- Built an AI-driven autocomplete feature for the word editor, enhancing writing efficiency by suggesting relevant content and streamlining workflows
- Designed a payment structure for premium AI services, offering tiered access to more powerful models via a subscription-based monetization system
- Implemented a full-stack Electron-based desktop app for document annotation and text editing, optimizing UI/UX for seamless interaction
- Secured $50,000+ in funding through the Cozad New Venture Challenge and VCs, earning recognition for innovation and enhanced productivity tools
- Currently leading a beta testing phase with several hundred early adopters, including industry leaders from Trello, Trala, and OrangeQC

CS 222: Software Design Lab, *Course Assistant* January 2024 – present

- Created course content, including lecture slides and robust web infrastructure, to support the educational experience for 400 students
- Managed and mentored 6 student teams on software development projects, fostering collaboration, workflow methodologies, and code-testing standards

ACTIVITIES

Aerial WiFi Network with Drones *August 2024-present*

- Implemented an aerial WiFi network using drones equipped with Raspberry Pi 4s to extend connectivity across large outdoor and indoor spaces
- Configured secure, real-time ESP32 transmission and optimized signal strength, SNR, throughput, and latency across variable distances and altitudes
- Addressed challenges such as signal attenuation, interference, and power limitations through solutions like directional antennas, beamforming, encryption protocols, and optimized power management

Founders - Illinois Entrepreneurs, *Project Lead* *February 2023 – present*

- SeriesFarm: AI-Powered Agricultural Loan Assistance Platform
  - Led the development of a personalized funding platform to help farmers access relevant loans and grants
  - Built a fine-tuned chatbot using LangChain and LLaMA, enabling intelligent filtering of funding opportunities based on user queries
  - Implemented a RAG pipeline with Pinecone vector storage for efficient document retrieval and deployed over AWS SageMaker
  - Developed full platform with React and Django REST, storing user data in a scalable SQLite database, and successfully deployed site
- Fitcheck: AI-Enhanced Fashion Social Media Platform
  - Led a team to develop a fashion-focused social media app, integrating a Pinterest-style feed using React Native and NestJS
  - Designed an AI-powered image detection system with CLIP, BERT, and OpenCV to recognize clothing types and detect brand logos
  - Implemented a two-tower model architecture with Tensorflow and FAISS for image classification and NSFW content
  - Developed an Hugging Face-based personalized recommendation engine, improving outfit suggestions and user engagement
  - Secured funding from fashion industry leaders, including ZARA and H&M, and collaborated with a client to refine platform features

Disruption Lab, *Software Engineer* *February 2024 – present*

- Developed RAG system to enhance information retrieval for ACCY 200 course content, leveraging a vector store with 10,000+ indexed course materials
- Deployed a scalable NLP pipeline that integrates the model with Pinecone's vector database, optimizing retrieval efficiency for diverse user queries
- Designed and implemented a Streamlit frontend, enabling seamless interaction and improving response accuracy by 30% with conditioned fine-tuning
- Deployed the RAG on AWS SageMaker, overcoming model inefficiencies and kernel crashes with thorough experimentation to ensure minimized latency
- Engineered adaptive text extraction to handle heterogeneous file formats (HTML, XML, PDFs), expediting preprocessing efficiency for AI model inputs

Quant Illinois, *Trading Division* *February 2023 – December 2023*

- Research current strategies for momentum trading algorithms e.g. MAC-D, RSI divergence, Ichimoku Cloud
- Simulated portfolios with backtesting to project stock progression and optimize trading strategies
- Engineered and tested pairs trading and statistical arbitrage algorithms, achieving a 130% gain over the S&P 500 benchmark

A Deep Dive – Applying AI and Neural Networks to Project Human Biomechanical Efficiency in Swimming *September 2021 – May 2022*

- Developed a computer vision pipeline using OpenPose, MediaPipe, and OpenCV to analyze swimmer biomechanics, joint angles and movement
- Implemented a CNN model using TensorFlow and PyTorch, extracting kinematic features from high-speed video footage
- Engineered a quantitative assessment framework, improving skill-level classification accuracy relative to traditional coaching techniques
- Created a data-driven feedback system, leveraging NumPy and Pandas to compute real-time biomechanical insights and identify areas for improvement
- Explored AI-driven athletic performance analysis, sparking long-term interest in sports analytics and real-time motion tracking applications

TECHNICAL SKILLS

Languages: Python, Java, C++, C, CUDA, JS, TS, Terraform, HTML/CSS, SQL, MongoDB, Neo4j, Swift, MIPS Assembly, x86, Verilog, Golang, Haskell
Developer Tools: Git, Github, VS Code, Docker, AWS Console, Postman, Firebase, GCP, Google Colab, SQLite, MongoDB Compass, Neo4j Browser
Frameworks: React, React Native, Streamlit, THREE.js, Bootstrap, TailwindCSS, Django, Electron, Express.js, Node.js, Next.js, NestJS, Jest, Sentry, Prisma
Python Libraries/Models: TensorFlow, Keras, PyTorch, OpenCV, MediaPipe, Pandas, Scikit-learn, NumPy, SymPy, SciPy, Matplotlib, BeautifulSoup, Selenium, Stable Diffusion, Transformers, HuggingFace, OpenAI, Langchain, FAISS, CLIP, BERT, LLaMA, GPT, Langchain