RUPAK RAUT

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EDUCATION

The University of Southern Mississippi

Major: Computer Science & Mathematics   *Expected Graduation:* May 2026
GPA: 4.0

WORK EXPERIENCE

FullStack Engineer Intern   Feb 2024 - Present
OmniSynkAI

- Developed responsive, dynamic UIs with Next.js, Tailwind CSS, and Redux for predictable state management, ensuring cross-browser and cross-platform compatibility.
- Automated listings, order fulfillment, and inventory synchronization for e-commerce marketplaces with Fastify/Node.js through RESTful APIs integration and decision-making LLMs.
- Hosted Fastify/Node.js and PostgreSQL backend with Prisma ORM on Microsoft Azure, implementing CI/CD pipelines using GitHub Actions for automated testing and deployment.

Undergraduate Researcher/Developer   Sep 2023 - Dec 2023
University of Southern Mississippi

- Utilized state-of-the-art electron microscopy data to train convolutional neural networks (CNNs).
- Developed a deep learning model to accurately simulate intracellular calcium dynamics in single cells.
- Designed and implemented a full-stack React.js application with a Node.js backend to visualize simulations, incorporating D3.js for dynamic data visualization, RESTful APIs for data retrieval, and Docker for containerization.

PROJECTS

CleanLabel

- Developed and optimized a Fastify/Node.js backend focusing on RESTful API construction.
- Configured a reverse proxy within an Amazon EC2 instance to enhance the hosting environment.
- Developed a custom LLM leveraging a dataset of globally banned ingredients, utilizing NER to precisely identify and classify harmful substances from real-time camera feeds.
- Awarded $2500 for winning the "Tech for Social Impact" Hackathon with this project.

Drag and Drop Website Builder

- Developed a dynamic drag-and-drop website builder using GrapeJS, Next.js, and Tailwind CSS, enhancing user experience with customizable JS blocks like navbars.
- Enabled multi-page creation and routing capabilities, allowing users to build complex websites and navigate seamlessly between different sections with an option to publish in public domain.

Automated Product Listing (Intern Project)

- Developed an LLM trained on over 10,000 product entries, achieving 95% accuracy in auto-categorization and detail filling for product listings.
- Applied NLP algorithms and data preprocessing methods in the LLM, including tokenization and TF-IDF vectorization, to enhance feature extraction and improve accuracy in product categorization.
- Implemented Redis for caching to decrease load times by 30% and deployed NGINX for load balancing.

Open-Source Contributions

- Clerk – The most comprehensive User Management Platform.

HONORS & AWARDS

- OmniSynkAI - Top 10% YC Applicant W24; Supported by Microsoft Startup Hub and Google for Startups Cloud.
- Startup Founding Engineer - Google for Startups
- VOXO HATCHATHON First Place - Tech for Social Impact, awarded $2500.

SKILLS

- Python
- REST APIs
- Node.js
- MySQL
- Express.js
- Ruby/Rails
- Azure
- Git