VENKATA ROHITH PESALA

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SKILLS

- **Languages:** JavaScript, TypeScript, Python, SQL, HTML, CSS
- **Databases:** MySQL, PostgreSQL, SQL Server, pgAdmin
- **Frameworks & Libraries:** Next.js, React, Angular, Node.js, Express.js, Redux, Flask, Socket.io
- **Cloud & DevOps:** AWS, Azure DevOps, Docker, CI/CD, SonarQube
- **AWS Services:** EC2, S3, Lambda, Step Functions, EventBridge (Rules/Scheduler), RDS, Secrets Manager
- **APIs & Integrations:** Stripe (Card Payments), Plaid (ACH payments), Twilio (OTP/SMS), SendGrid, Mailtrap, OpenAI API, NewsAPI
- **Tools:** Git/GitHub, Jira, Postman, Swagger/OpenAPI, VS Code, Vite, Redis
- **Concepts & Methodologies:** RESTful APIs, Agile, SDLC, Real-Time Messaging, WebSockets, RBAC, Authentication/Authorization (Keycloak)

WORK EXPERIENCE

Full Stack Developer   **Nov 2024 - Present**
Nebraska Innovation Labs   Omaha, Nebraska

DM- DreamMoney | Supervisor: **Ms. Megan Hale**   **Oct 2025 - Present**

- Sole full-stack engineer building the next version of DreamMoney using **Next.js**, **TypeScript**, and **PostgreSQL (pgAdmin)**, delivering end-to-end features across UI, API, database, and deployments.
- Owned the complete SDLC: created and managed work in **Jira**, implemented features and fixes, reviewed/merged PRs, and released to **dev**, **QA**, and **production** via **CI/CD**.
- Modernized the **Admin Dashboard UI** and refactored user management by consolidating multiple admin pages into a single, filter-driven view to improve performance and simplify workflows.
- Implemented admin-initiated onboarding flows including **resend invitation email**, securely retrieving temporary credentials from **Keycloak** and delivering them through updated email templates.
- Redesigned and standardized **HTML email templates** across the application to improve user communication, readability, and consistent branding.
- Revamped the **User Dashboard** experience to support business planning and financial workflows, improving navigation and overall usability.
- Built and integrated core planning modules and data flows such as **spending plans**, **revenue goal calculators**, **business model builder**, **financial projections**, **cash flow allocation**, **profit sharing planner**, and **yearly summaries**, ensuring accurate persistence in **PostgreSQL**.
- Performed production support and platform maintenance by monitoring **New Relic**, investigating **AWS CloudWatch** logs for **Lambda** issues, validating scheduled jobs, and verifying email deliverability.
- Ensured environment consistency by managing configuration updates and synchronizing secrets using **AWS Secrets Manager**, supporting stable releases across all environments.
- Improved code quality and release confidence by enforcing **Sonar** checks in the pipeline and resolving merge conflicts early to keep deployments reliable.

AQI - Aequitas Invest | Supervisor: **Mr. Lemuel Stevens**   **Feb 2025 - present**

- Customized an existing company dashboard into a multi-role investment platform for **Entrepreneurs** and **Investors**, enabling end-to-end onboarding, campaign creation, and investing workflows.
- Built application workflows for both roles: users complete detailed applications, perform **email verification**, and proceed to account creation using **pre-filled form data** from the database.
- Implemented admin approval logic: once approved, entrepreneurs can create campaigns visible to the public; investors can browse campaigns and invest based on platform rules.
- Integrated investor compliance checks by invoking **North Capital TransactAPI KYC/AML (performKycAml)** after investor personal details submission; persisted approval/rejection results and full response payloads in the database.
- Enforced campaign funding rules by validating investor investments against the **minimum investment amount** configured by entrepreneurs for each campaign.
- Implemented payment processing through **North Capital fund movement APIs**, supporting both **Credit Card** and **ACH** payment options for investors.

- Enabled **Credit Card (Stripe)** payments by embedding the **Stripe** payment flow via **iframe** using North Capital's **linkCreditCard** response URL, executing the payment API, and storing transaction responses for audit and tracking.
- Enabled **ACH (Plaid)** payments by embedding the **Plaid** bank-link flow via **iframe** using North Capital's **linkExternalAccount** response URL, initiating ACH payments, and storing responses in the database.
- Added payment method update capabilities so investors can overwrite existing **credit card/bank account** details using **updateLinkedCreditCard** and **updateLinkExternalAccount**, improving repeat-investment experience.
- Integrated real-time messaging between users using **WebSocket**, ensuring instant message delivery within the dashboard with minimal latency.
- Designed role-specific dashboards that display application and account data in **read-only mode** after submission/approval to enhance transparency and user experience.
- Built admin functionality to view, approve, or reject applications, including **internal (admin-only)** and **external (user-visible)** notes to support effective communication and audit trails.
- Implemented **OTP-based phone verification** using **Twilio (SMS)**, storing verification status and applying **rate limiting** to prevent abuse.

VisitorLog Book System | Supervisor: **Mr. Lemuel Stevens**   **Aug 2025 -Sep 2025**

- Developed a full-stack visitor management system for companies using **Vite** (React) for the frontend, Node.js/Express for the backend, and **MS SQL** Server for the database.
- Implemented visitor **sign-in** and **sign-out** flows: new visitors can create a profile, while returning visitors are fetched from the database.
- Visitors select the employee they are visiting; the system logs their check-in and check-out times.
- Added an **automated script** to auto sign-out visitors after office hours.Integrated Swagger for API documentation and testing.

DAR - Digital Air Registry | Supervisor: **Mr. Lemuel Stevens**   **Mar 2025 - April 2025**

- Developed the **property claiming workflow**, enabling users to register and submit claims for their properties.
- Users could search their property on a map (using **Mapbox GL**) and view details retrieved from **ReportAll USA API**.
- Implemented **admin approval process** to validate claims before displaying them in the user dashboard.
- Enabled owners to **withdraw their claimed properties** from their dashboard at any time.

ICHA - Inspire Collaborative Health Association | Supervisor: **Mr. Lemuel Stevens**   **Nov 2024 - Feb 2025**

- Implemented a **role-based** login system with three dashboards: Public (no login required), Patient (login required), and Member (login required).
- Added **email verification** for user registration and ensured form submissions are securely stored and retrievable from the database.
- Built an extensive enrollment form with **150+ fields**, allowing admin approval/rejection with real-time notifications.
- Automated **directory card** creation upon admin approval and developed the admin dashboard for managing users and form submissions.
- Enabled temporary directory card updates pending admin approval via Mailtrap-integrated emails.
- Created and managed **GitHub issues** for each task, providing clear solutions and step-by-step validation for **troubleshooting**.
- Maintained detailed **documentation** of bugs and errors, participated in daily meetings, and provided regular progress updates.
- Automated **DB table** setup and contributed structured **README** for project onboarding.

Attic Graduate Researcher   **June 2024 - Dec 2024**
University Of Nebraska at Omaha | Codecrush Project | Supervisor: **Dr. Deepak Khazanchi**   Omaha, Nebraska

- Led the complete redevelopment of the **CodeCrush** website, modernizing the architecture and implementing a scalable backend using **Python (Flask)** and a component-based frontend with **ReactJS**for improved maintainability and performance.
- Designed and integrated a **dynamic form submission and approval system**, enabling students to submit requests and administrators to review, approve, or reject entries via a secure admin dashboard.
- Implemented **RESTful APIs** for seamless communication between the frontend and backend, ensuring efficient data handling and secure access control.
- Maintained version control with Bitbucket, managing issues and performing peer code reviews to ensure high-quality, maintainable code.

Graduate Researcher   **Jan 2023 - June 2024**
University Of Nebraska at Omaha | UNMC Project | Supervisor: **Dr. John youn**   Omaha, Nebraska

- Spearheaded the "Infant Monitoring Systems" project under the guidance of Dr. John Youn, focused on improving health outcomes through data driven analysis of sleep patterns in infants aged 6-15 months.
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- Developed **Python**-based algorithms in Jupyter Notebook, achieving a 95% accuracy rate in **detecting sleep** duration and patterns, leading to a 30% improvement in research insights.
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- Advanced the project by accurately identifying **sleep and idle states**, paving the way for sensor validation and the publication of findings in a peer reviewed research paper.

Software Engineer   **Sep 2021 - Dec 2023**
HCL Technologies| Citi Bank – CGE Project | Supervisor: **Mr. Soumen Paul**   Chennai, India

- Completed intensive training in **Java Full Stack Development** and certified through the Great Learning platform.
- Joined the Citi Gifts and Entertainment (**CGE**) project and quickly adapted to an existing **Java/Spring Boot** backend and **React.js** frontend architecture.
- Developed and enhanced **RESTful APIs** using Java and Spring Boot, ensuring secure and scalable data exchange between frontend and backend systems, which improved performance and reliability.
- Implemented UI enhancements with **React.js**, refining existing components and improving user workflows, resulting in measurable gains in user satisfaction.
- Optimized SQL queries and data access methods in **MySQL**, reducing data retrieval times by 25% and improving application responsiveness.

PROJECTS

Ventrack

- Designed and developed **Ventrack**, a full-stack vendor compliance platform that enables organizations to upload, manage, and approve vendor documents while tracking compliance status and deadlines in real time.
- Built end-to-end functionality across **frontend UI**, **backend APIs**, and **database workflows** for document management, compliance tracking, automated approvals, and notification workflows.
- Implemented **enterprise-grade security controls**, including role-based access, activity/audit logging, and secure document handling to support scalable and compliant vendor operations.

Newstrust

- Built a website where users type a news claim and get a result (True / False / Unclear) with a confidence score.
- Combines **OpenAI** analysis with **NewsAPI** articles to cross-check claims; saves user questions and results in **Supabase** so others can view them, with links to sources and a short explanation.

AI Code Generator

- Developed an **AI-Driven** tool to generate code snippets from user prompts using OpenAI's language models, reducing coding time for common programming tasks.
- Designed a **Flask API** endpoint to handle prompt-based code generation request, streamling integration and testing with postman

Deep Learning based 3D Free Space detection

- Designed a 3D free space detection algorithm for autonomous vehicles, leveraging **stereo camera** depth data to identify safe navigable areas.
- Applied the **Semi-Global Stereo Matching** technique and **RANSAC** line-fitting to improve safety and obstacle avoidance.

EDUCATION

Master's of Science in Computer Science,- University of Nebraska at Omaha   **Jan 2023 - Dec 2024**