Pryce Tharpe

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Professional Experience

Mesh Systems, Carmel, IN   *May 2025 – Present*
Software Engineer Intern
Rotated through Cloud, Mobile & DevOps teams on AI enablement, automation, and feature development.

AI System Prompt & Internal Enablement Platform   *Jun – Aug 2025*

- Developed a master IDE prompt that standardized AI-assisted coding workflows across the company.
- Built internal GPT-based tools and facilitated 17 short enablement sessions (AI 101/workshops) for 20+ engineers across multiple teams, standardizing AI usage across the org.

Azure DevOps Sprint Scorecard Extension   *Jun – Aug 2025*

- Designed and delivered an Azure DevOps extension with real-time sprint dashboards for project tracking.
- Converted a static HTML prototype into a production-ready React/Next.js solution, integrating backend data from a junior intern's service.

Financial Report Automation   *May – Jun 2025*

- Designed and launched an automated ETL pipeline with Microsoft Fabric and SQL, cutting monthly Azure reporting from 3 hours to under 10 minutes.

Academic & Personal Projects

ECE 46100 - Software Engineering — Package Registry System   *Aug – Dec 2025*

- Designed complete AWS deployment infrastructure (ECS/Fargate, ECR, S3, CloudWatch) with CI/CD pipeline using GitHub Actions and OIDC authentication.
- Implemented LLM-based evaluation metrics for performance claims and reproducibility assessment.

Senior Design — Smart Glasses GenAI Subsystem   *Aug – Dec 2025*

- Built FastAPI microservice with retrieval-augmented generation (RAG) pipeline using Qdrant vector store, multi-provider LLM abstraction (Ollama/GenAI API), and three-layer context system.
- Designed REST endpoints for educational artifact generation (flashcards, MCQs); integrated with Node.js backend and React/React Native frontends.

SimRAG Reproduction — RAG Fine-Tuning Study   *Aug – Dec 2025*

- Reproduced NAACL 2025 SimRAG methodology on consumer hardware; implemented two-stage QLoRA fine-tuning with 4-bit quantization and built evaluation framework establishing model capacity lower bounds for RAG effectiveness.

Additional Experience

Purdue Rack and Roll, West Lafayette, IN   *Aug 2023 – Present*
Managed daily operations and customer experience in a high-responsibility, two-person setting.

Royal Pin Woodland, Indianapolis, IN   *Aug 2021 – Aug 2024*
Trained 5+ new hires, led 2–4-person teams, and supervised a 70-lane center during peak hours.

Education

Purdue University, West Lafayette, IN   *Aug 2022 – May 2026*
Bachelor of Science in Computer Engineering
Current Coursework: Software Engineering, Machine Learning, Software Senior Design

Skills

Technical: Python, C/C++, React, Next.js, TypeScript, AWS (ECS, ECR, S3, CloudWatch, IAM), Docker, CI/CD (GitHub Actions), Azure DevOps, Microsoft Fabric, SQL, FastAPI, RAG Systems, LLM Integration, Prompt Engineering, Git/GitHub, pytest