

Tanish Misra

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EDUCATION

Purdue University

B.S. Computer Science (Machine Intelligence & Security Concentrations), Statistics Minor

- Coursework: Problem Solving & OOP, Data Structures & Algorithms, Linear Algebra, Computer Architecture

West Lafayette, IN

Graduating December 2028

EXPERIENCE

Toyota Motor North America

Software Engineering Co-op, Automation Team, Connected Experiences Division (CXD)

- Built an AI pipeline converting 1,100+ in-vehicle infotainment test cases into automation-ready scripts, cutting authoring time from 3+ hours to about 30 seconds per case with 72% sub-script F1 against human-written cases.
- Engineered a swappable LLM backend across Azure, Vertex, and Ollama with parallel batch workers and a retry loop that repairs output errors deterministically where possible and through targeted prompts otherwise.
- Automated knowledge-base refreshes through GitHub Actions whenever teammates push code that changes how test cases are written, keeping the pipeline current for the manual test writers who use it.

Plano, TX

May 2026 – August 2026

The Data Mine, Purdue University

Undergraduate Data Science Researcher, 12 completed projects

- Benchmarked pandas vs Polars on 500K+ row flight datasets, measuring read performance at scale and comparing explicit vs implicit API design patterns for filtering, selection, and type coercion.

West Lafayette, IN

January 2026 – Present

Q Spark Group (QSG)

Data, Analytics, and AI Intern

- Improved NER accuracy from 22% to 90% by training on 1M+ synthetic records and retraining on misclassified cases.
- Applied the model to classify 250,000+ SQL records by sensitivity, automating company-wide access permissions.

Remote

March 2024 – July 2025

Purdue Electric Racing

Firmware Developer, Software Team

- Implemented git-hash validation firmware in embedded C for 7 STM32 node types, verifying version consistency across 90 CAN messages at boot.
- Triaged firmware mismatches into 3 severity levels via a fault-priority schema, eliminating manual repo checks.

West Lafayette, IN

August 2025 – Present

Electric Vehicle Club

Software Developer, Autonomous Team

- Co-developed an OpenCV vision node within a 9-node ROS2 autonomous kart system, detecting lane edges via color segmentation, tracking them across frames, and computing steering angles with triangle geometry.

West Lafayette, IN

August 2025 – Present

PROJECTS

Telogify (F1 Telemetry Intelligence) | LangGraph, PostgreSQL, Anthropic API, React

August 2026

- Launched an F1 telemetry platform generating 10 data-grounded insights per race weekend through a scheduled LangGraph ReAct agent bound to 12+ deterministic Postgres query tools.
- Eliminated LLM hallucination by filtering output against a 60-phrase blocklist and validating every cited number against query results before persisting.

Candle for Choroideremia (CHM) | FastAPI, PostgreSQL, pgvector, OpenAI API

April 2026

- Designed a research dashboard ingesting 29 clinical trials and 475 publications, enabling plain-English patient queries through vector similarity search with medical safety guardrails.
- Adopted by CureCHM as the foundation's official patient resource after user acceptance testing by 3 blind patients, giving patients centralized access to previously scattered trial research.

Securify | LangGraph, RoBERTa, OpenAI API | AlgoFest 2026 Hackathon Semi-Finalist

April 2026

- Architected a 4-node LangGraph security pipeline redacting PII through a fine-tuned RoBERTa NER model with 0.940 micro F1 across 10 entity classes.
- Verified zero PII leakage via entity-map cross-referencing, using 18 regex filters for first-line injection defense.

TECHNICAL SKILLS

Languages: Python, Java, C, SQL, TypeScript

AI/ML & Data: LangChain, LangGraph, HuggingFace, Anthropic API, OpenAI API, PyTorch, OpenCV, PostgreSQL

Developer Tools: Git/GitHub, GitHub Actions, Docker, Jira, Claude Code CLI, Codex, pytest, pytest-cov, Alembic, REST APIs, React, Vercel, Railway

Practices: Code review including AI-generated code, CI/CD, Agile sprints, LLM evaluation, pre-commit testing, git-secrets, environment-variable secrets management, technical documentation, log-based production debugging