Oliver Grudzinski

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SUMMARY

B.S. Computer Science Junior at MSOE with hands-on experience in AI, machine learning, data analysis, and full-stack development. Built scalable web and AI systems during an internship at TESCHGlobal. Active member of MSOE AI Club and Society of Software Engineers, dedicating 8+ hours/week to projects. Eagle Scout with a strong record of leadership. Key skills: Python, Java, LLMs, full-stack development, React, TypeScript, Node.js, and CI/CD pipelines.

EDUCATION

B.S. Computer Science | Milwaukee School of Engineering | GPA: 3.20 | Expected May 2027

INTERNSHIP EXPERIENCE

Full Stack Software Development Intern | TESCHGlobal | Grafton, WI | June 2025 – Present

Automated XML Schema Documentation Pipeline: Engineered an autonomous CI/CD pipeline to analyze, compare, and document XSD changes via Python and Machine Learning.

- Built core inference engine for the RAG pipeline, translating raw XML node differences into structured JSON representing architectural changes.
- Implemented generative AI component with grounding, using an LLM to convert JSON data into technical analyses of schema changes.
- Deployed workflow via GitHub Actions, reducing XML documentation time by 95%, cutting a 4-hour manual process to 5 minutes.

Healthcare Web Application Development & FHIR Integration

- Developed clinical SPA features using React, TypeScript, and HL7 FHIR REST APIs.
- Enhanced Node.js BFF APIs supporting legacy Angular components.
- Increased unit test coverage across React and Angular modules for improved reliability.
- Collaborated in sprint cycles and daily standups as part of an Agile (Scrum) development team.

Inventory Systems Management Intern | Wisconsin Stamping & Manf. | June 2021 – June 2025

- Authored SQL queries analyzing historical inventory to identify slow-moving stock and optimize ordering.
- Performed daily cycle counts, reconciled ERP discrepancies, and tracked stock trends.
- Maintained 99%+ inventory accuracy, supporting efficient production and supply chain operations.
- Collaborated with operations and warehouse teams to implement process improvements, enhancing overall workflow reliability.

PROJECT EXPERIENCE

First Place - Juno Hackathon, CPA Agentic Research System (Team of 3): Built LLM-driven deep research assistant for tax analysis using Python, LangChain, PydanticAI, which cut CPA research time by 80%.

- Developed PDF ingestion pipeline with PyMuPDF, extracting text/images and encoding multimodal payloads for richer LLM context.
- Created LangGraph state-machine workflows to break complex tax-law queries into subtasks, running asynchronously to accelerate research by 95% and resolve 3–5 hour queries in 4 minutes.
- Implemented iterative agent loop to generate section reports, flag missed credits, and produce actionable tax-saving recommendations.
- Collaborated closely with a 3-person team to design, test, and deploy the system under strict hackathon deadlines, earning first-place recognition.

Diabetes Prediction Using Random Forest

- Performed Kruskal-Wallis tests with Bonferroni correction to identify statistically significant predictors and retained Glucose, Age, and Pregnancies as key variables.
- Trained and optimized Random Forest Classifier with hyperparameter tuning, achieving 90.49% accuracy and 0.8202 F1 score using greedy feature selection.
- Demonstrated that minimal clinical inputs can effectively predict diabetes outcomes, and outlined next steps including comparative models and SHAP-based interpretability.

Campaign Management System: Built full-stack web application with React, Node.js, Express.js, MariaDB, and role-based access control for multi-tenant architecture.

- Developed responsive React SPA with Vite, Tailwind CSS, custom hooks, Context API state management, and lazy loading, achieving 95+ performance scores on mobile-first design.
- Architected Node.js/Express REST API with JWT authentication, bcrypt encryption, Knex.js ORM, file upload middleware, and 15+ permission types via RBAC.
- Designed normalized MariaDB schema with 8 tables, foreign keys, automated migrations, indexing, and transactions with sub-100ms query times.
- Implemented ESLint, automated testing, Docker containerization, CI/CD pipelines, environment configuration, and security best practices including XSS/SQL injection prevention.

Modern React Single Page Application: Built personal portfolio website with React, React Router DOM, and Vite for fast, reliable production.

- Implemented TailwindCSS with custom CSS animations to create an immersive, visually engaging website.
- Developed a dynamic navbar with moving highlight bubbles, theme toggle, responsive mobile menu, and project filtering to enhance user interaction.
- Hosted on AWS; showcased professional projects at olivergrudzinski.com!

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, TypeScript, JavaScript, SQL, Golang
Web Development: React, Node.js, HTML, CSS, JavaFX, Vite, TailwindCSS, Redux, AWS
AI/ML: Scikit-learn, Pandas, NumPy, TensorFlow, LangChain, LangGraph, LLMs, Generative AI, RAG
Databases & Tools: Git, GitHub, GitHub Actions (CI/CD), MongoDB, SQL, Snowflake, Docker, Jupyter Notebooks, VSCode
Development Methodologies: Agile (Scrum), Waterfall

CO-CURRICULAR INVOLVEMENT | COMMUNITY SERVICE

Eagle Scout | Scouts of America | 2015 – 2022
Researcher | MSOE AI Club (MAIC) | Sep 2023 – Present | 6 hrs per wk
Member | Society of Software Engineers | 2024 – Present | 2 hrs per wk
Athlete | Intramural Volleyball | 2025 – Present | 2 hrs per wk