Daniel Coblentz

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EDUCATION

Hood College | **Frederick, MD** Expected Jun 2026

B.S. in Computer Science, Minor in Mathematics *Cumulative GPA: 3.84*

- **Coursework**: Artificial Intelligence, Data Structures & Algorithms, Databases, Software Engineering, Data Communications.
- **Awards**: Volpe Scholar, Christine P. Tischer Scholar (top 2%), Dean's List (all semesters), CS Honor Society (top 5%).

SKILLS & TECHNICAL TOOLS

Programming Languages: Python, Java, JavaScript, TypeScript, C++, SQL (MySQL, Postgres), Bash, R
Web/Backend: Spring Boot, Node.js, Next.js, React, FastAPI, Flask, REST APIs, MVC, Microservices
ML/Data: PyTorch, TensorFlow, Scikit-learn, HuggingFace, LangChain, Computer Vision, Pandas, NumPy
Cloud/DevOps: AWS (Lambda, S3, DynamoDB), GCP, Docker, Kubernetes, Linux (Ubuntu/RHEL), CI/CD Pipelines, Git

PROFESSIONAL EXPERIENCE

Lawrence Berkeley National Laboratory May 2025 — Present

Machine Learning Research Intern

- Designed multimodal ML pipelines using TabNet and ClinicalBERT to classify high-risk medical cohorts with 90% ROC-AUC.
- Developed Python ETL pipelines to transform 80k+ patient records into numerical embeddings for scalable model training.
- Improved Random Forest and Logistic Regression performance via feature engineering, raising accuracy from 80% to 89%.

Celebrations Catering Sep 2024 — May 2025

Software Engineer

- Built internal dashboard using React.js and Java, enabling company managers to manage employee records and schedules 50% faster.
- Developed RESTful APIs with Spring Boot for employee record management, implementing data validation and error handling across 20+ endpoints.
- Implemented automated email notification system using JavaMail and Spring scheduler, reducing manual communication overhead by 70%.

Hood College Department of Computer Science Sep 2023 — May 2025

Graduate Research Assistant & Undergraduate Teaching Assistant

- Implemented Computer Vision quantization techniques in PyTorch, reducing model size by 20% for edge deployment.
- Calibrated ResNet-50 model on ImageNet, achieving a 19% improvement in Top-5 accuracy over uniform quantization.
- Instructed 60+ students in Data Structures & Algorithms and Python, Java, and JavaScript through lectures and lab sessions.
- Led algorithmic problem-solving sessions, performed regular code reviews, and received consistent 5/5 ratings from students.

PROJECTS

Travel Booking Platform | *Node.js, Prisma, Next.js, PostgreSQL, TailwindCSS*

- Collaborated to build a fullstack travel booking app with hotel & flight reservations and role-based access for users and owners.
- Designed REST APIs and a relational schema in Node.js and PostgreSQL, ensuring consistent data integrity.
- Built a responsive frontend with Next.js and TailwindCSS, supporting search, filtering, cart and checkout.

Lens - RAG document system | *AWS Lambda, TypeScript, Python, DynamoDB, S3, LangChain*

- Built a serverless document platform on AWS Lambda to process 10K+ legal contracts with automated clause extraction.
- Implemented end-to-end RAG pipeline with LangChain vector embeddings and LLM inference, improving accuracy by 23%.
- Architected scalable storage with DynamoDB and S3, integrating Redis caching with optimized keys to cut latency by 9%.

AuditIQ | *Python, Spring Boot, React, AWS S3, MySQL, Docker, Redis*

- Developed fullstack audit platform with React and REST APIs, reducing manual review time by 35% for ISO 27001/GDPR.
- Implemented backend with Spring Boot and Python microservices using HuggingFace T5, integrating Redis and S3 storage.
- Deployed scalable microservices using CI/CD pipelines with Docker and Kubernetes to support high-availability workloads.

LEADERSHIP & ACTIVITIES

Vice-President (Co-lead), Competitive Programming Team | *C++, Python* Oct 2024 — Present

- Ranked 3rd of 16 teams at CCSC-Eastern Regionals, utilizing advanced data structures and algorithmic optimization.
- Facilitated 15+ practice sessions on graph theory and dynamic programming, improving team problem solving speed by 17%.
- Collaborated on a team repository to build C++ templates for algorithmic patterns, boosting team solving speed by 24%.