Daniel Hu

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WORK EXPERIENCE

Data Science Intern | ESDC | Toronto, ON   April 2025 – August 2025
- Leveraged multivariate regression, random forests, gradient boosting, clustering, and time series models in Python and R to identify key productivity factors in EI approvals, reducing delays for 5000+ daily applicants.
- Analyzed 100+ SQL procedures in Azure Synapse to debug failures and restore critical pipeline functionality.
- Diagnosed and fixed 10+ bugs in CI/CD and QA workflows, unblocking 30+ tasks with clear documentation.
- Built 25+ Power BI dashboard features using memory optimization techniques to handle 40M+ data points.
- Aligned with 20+ stakeholders in Agile sprints to analyze KPIs, reducing data quality validation time by 77%.

Software Engineering Intern | Tramona | Seattle, WA   October 2024 – April 2025
- Designed full-stack platform features in a 1000+ file codebase using Next.js, TypeScript, SQL, and Python.
- Integrated a Llama AI chatbot via transfer learning on Hugging Face to autonomously handle 50% of client support tickets and implemented a real-time email reminder system to improve customer retention by 33%.
- Developed scrapers to pull 50000+ travel listings and expanded market reach by crawling media platforms.
- Created 10+ reusable frontend components for cross-device compatibility, reducing code repetition by 17%.

AI Engineering Intern | Outlier | San Francisco, CA   August 2024 – October 2024
- Fine-tuned scalable AI training pipelines using Java and C across 10+ models, ensuring robust architecture.
- Monitored 100+ AI tasks in math, data, and image analysis, leveraging RAG and reinforcement learning to identify performance gaps, retrain models, and improve response relevance, reducing hallucinations by 5%.
- Evaluated 5000+ lines of AI-generated code across 100+ prompts, increasing overall model accuracy by 3%.

Software Engineering Intern | GE Vernova | Hangzhou, ZJ   July 2024 – August 2024
- Built multilingual OCR software using Python and C++ with 98% accuracy, boosting branch efficiency by 8x.
- Automated BOMs with VBA to eradicate manual errors and reduce process time from 5 hours to 5 minutes.
- Created Smartsheet scripts to track safety compliance and product quality, cutting response times by 50%.

PROJECTS

Marketwire 🔗 | Python, FastAPI, BS4, PostgreSQL, Redis, Celery, Docker, Next.js, TypeScript
- Smart investing platform that scrapes and analyzes real-time news sentiment to automate trading actions.

Sleep Trigger 🔗 | Swift, C, C++, Obj-C++, Metal, ARM NEON, CoreMotion, HealthKit, SQLite
- Privacy-focused sleep detection with GPU optimization via real-time sensor processing to trigger shortcuts.

Backdrop Zap 🔗 | Java, Spring Boot, OpenFeign, MySQL, React, JavaScript, Clerk, Tailwind CSS
- API-driven background remover with deep semantic segmentation, seamless payments, and scalable SaaS.

Autonomous Vehicle Object Detection 🔗 | TensorFlow, Keras, NumPy, OpenCV, VGG16
- Achieves a 0.99 confidence score through hyperparameter tuning of a YOLO-based DarkNet neural network.

EDUCATION

University of Waterloo | Bachelor of Mathematics in Data Science | 3.9/4.0 GPA   Expected April 2028
- **Coursework**: Object-Oriented Software Development, Data Structures, Optimization, Logic and Computation
- **Activities**: Varsity Badminton Player (4x National Medalist), Data Science Club Mentor, CS Club Project Lead

Stanford University (Coursera) | Algorithms, ML, and DL Specializations   Completed December 2024

TECHNICAL SKILLS

Languages: Python, Java, C, C++, SQL, Go, Scala, R, JavaScript, TypeScript, Swift, HTML, CSS, VBA, Assembly, YAML
Frameworks: React, Spring Boot, FastAPI, Flask, Django, PyTorch, TensorFlow, Scikit-learn, Node.js, Next.js, ShadCN
Tools: AWS, Azure DevOps, Docker, Linux, GitHub, Jupyter, SSMS, Redis, Spark, Power BI, VS Code, Postman, Figma