Daniel Hu

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WORK EXPERIENCE

Data Scientist Intern | ESDC | Toronto, ON   May 2025 – August 2025
- Accelerated EI benefit approvals for **5k+** daily applicants nationwide by pinpointing **4** workflow bottlenecks using ensemble methods, time series forecasting, clustering, and multivariate regression in Python and R.
- Analyzed **140+** 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 **76%**.

Software Engineer Intern | Tramona | Seattle, WA   September 2024 – December 2024
- Shipped **10+** full-stack features for **20k+** users using Next.js, tRPC, and Drizzle ORM in a **1k+** file codebase.
- Integrated a Llama AI chatbot via transfer learning on Hugging Face to autonomously handle **34%** of client support tickets and implemented a real-time email reminder system to improve customer retention by **29%**.
- Developed scrapers to pull **50k+** travel listings and expanded market reach by crawling **8+** media platforms.
- Engineered modular component library with testing for cross-device use, reducing code duplication by **18%**.

AI Engineer Intern | Outlier | San Francisco, CA   May 2024 – August 2024
- Fine-tuned scalable AI training pipelines using Java and C across **15+** 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%**.
- Improved model accuracy from **84%** to **87%** by evaluating **5k+** lines of generated code over **120+** prompts.

Software Engineer Intern | GE Vernova | Hangzhou, ZJ   July 2024 – August 2024
- Built multilingual OCR software with **98%** accuracy using Python and C++, boosting branch efficiency by **7x**.
- Reduced process time from **5 hours** to **5 minutes** via VBA automation of BOMs, eradicating manual errors.
- Created **8+** Smartsheet scripts to track safety adherence and turbine quality to cut response times by **62%**.

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.

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.

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.

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, SQL, JavaScript, TypeScript, C, C++, C#, Go, R, Scala, Swift, Ruby, Bash, HTML, CSS, YAML
Frameworks: React, Node.js, Next.js, Spring Boot, FastAPI, Django, PyTorch, TensorFlow, Scikit-learn, Pandas, Pytest
Tools: AWS, Azure DevOps, Docker, Linux, GitHub, MySQL, Redis, Spark, Jupyter, Power BI, VS Code, Postman, REST