Peter Yegorov

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Professional Summary

Full-stack AI engineer with 1 year full-time industry startup experience, 2 year part-time research experience, and a Master's in CS specializing in production ML and design-driven development. Skilled in building end-to-end agentic applications from UI design to API development, with proven ability to architect and deploy complex workflows for law firms and financial services. Experienced in leveraging AI-assisted development to accelerate product cycles while maintaining code quality and user experience.

Technical Skills

- **AI-Assisted Development:** Cursor, Claude Code, AI-driven architecture design, rapid prototyping with LLM assistance, code generation workflows
- **Full-Stack Development:** FastAPI (REST APIs), React (component design, state management), TypeScript, PostgreSQL, Temporal workflow orchestration, email/fax integrations, API-first architecture
- **ML/AI Frameworks:** PyTorch, TensorFlow, Transformers (BERT, FinBERT), LangChain/LangGraph, OpenAI API, RAG pipelines with vector databases, Hugging Face, Named Entity Recognition, text classification, information extraction
- **Production Deployment:** AWS (EC2, ECS, S3, Lambda), Docker, GitLab CI/CD, automated testing, performance monitoring, HIPAA/PII compliance awareness
- **Data Science Stack:** Python (6+ years), Pandas, NumPy, Scikit-learn, Matplotlib, Jupyter, Git, anomaly detection, time series analysis
- **Domain Expertise:** Insurance claims automation, legal tech workflows, trading workflows, cybersecurity automation, document intelligence, financial modeling, power grid systems, music, fitness and well-being

Professional Experience

AI Engineer **Neptune Technologies Inc.**
Remote *December 2024 – Present*

- **Agentic Medical Record Request System:** Designed and built full-stack application for law firms automating medical record retrieval from healthcare providers using email and fax integrations with automatic response polling and temporal workflow orchestration in PostgreSQL, saving 100+ hours of manual work weekly.
- **React Frontend & API Design:** Architected responsive React interface for case management with real-time status tracking of 42000+ clients, integrated FastAPI backend with Temporal for reliable execution of 5+ workflows, enabling seamless provider coordination at scale.
- **Insurance Claims Automation:** Developed multi-agent AI system for Bodily Injury and Property Damage claims workflows, processing mold inspection reports, policy documents, damage estimates, and accident data end-to-end, saving 3+ daily hours of Case Manager manual work on the documents.
- **Cursor-Driven Development:** Leveraged Cursor for rapid full-stack implementation, using AI-assisted code generation to accelerate feature development by 500% while maintaining production-grade code quality and comprehensive testing.
- **Production Deployment:** Deployed models to AWS EC2, implemented GitLab CI/CD workflows, conducted daily stand-ups translating technical solutions to business requirements.

ML Researcher	**West Virginia University**
Morgantown, WV	*August 2022 – December 2024*

- **Advanced Feature Engineering:** Engineered temporal dependency features from packet streams, achieving 95%+ accuracy in anomaly detection for power grid security systems by identifying rapid state changes as key indicators. Presented findings to stakeholders, winning best paper award.
- **Transformer Models:** Implemented variational autoencoders and transformers for attack detection, processing raw Wireshark captures and creating novel algorithms for critical infrastructure protection, leading to a collaboration of our lab with Penn State.
- **NLP & Financial Intelligence:** Developed RAG pipeline with vector databases for anomaly detection in network packets, also leading to Penn State collaboration; built sentiment analysis system processing tweets, news, and YouTube comments using FinBERT for market prediction.
- **Cross-functional Impact:** Mentored 120+ students; Optimized the course, eliminating 50+ hours of repetition in TA's work. Nominated TA of the year.

Education

Master of Science in Computer Science	**West Virginia University**
GPA: 4.0/4.0	*December 2024*

- **ML Projects:** Completed 13 algorithm-focused projects including credit card fraud detection, super resolution, and diffusion models.
- **Relevant Coursework:** Advanced Machine Learning, Big Data Analytics, Deep Learning, Business Intelligence.

Bachelor of Science in Computer Science	**West Virginia University**
GPA: 3.7/4.0	*May 2023*

- **Achievements:** Magna Cum Laude, Dean's List, Winner of cybersecurity competitions as a member of CyberWVU, Marketing Volunteer for the public library of Morgantown.

Achievements & Publications

- **Certifications:** Oracle Cloud Generative AI Professional, CompTIA Security+.
- **Publication:** "Analyzing GOOSE Security in IEC61850-based Substation using ML, SDN and Digital Twin" - Best Paper Award, 2023 North American Power Symposium.

More About Me

I am 25 years old. In my free time, I engage in multiple hobbies, including but not limited to: Traveling (I have visited 30 countries), Gym & Well-being, Songwriting, and Sports. I am a singer and a founding member of an AI-driven Boy Band.