William C. Loe

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Software Engineer with scalable cloud, ML pipeline, and LLM app experience; patent holder with distributed systems

EDUCATION

University of Maryland Expected May 2026

M.S., Applied Machine Learning | GPA: 3.89 | Phi Kappa Phi Honor Society

Texas A&M University-Corpus Christi December 2020

B.S., Computer Science | Minor: Mathematics

SKILLS

ML Frameworks: PyTorch, TensorFlow, Hugging Face, Scikit-learn, XGBoost, LightGBM, Optuna
ML Techniques: Fine-tuning, Embeddings, RAG, Prompt Engineering, Class Imbalance Handling
MLOps & Tools: Docker, MLflow, Weights & Biases, AWS (Lambda, ECS, S3, Glue), SQL, Redis, REST/gRPC, Git, Linux

WORK EXPERIENCE

Software Engineering Intern | *Inovalon - Bowie, MD* May 2025 - August 2025

- Developed a full-stack, multi-cloud platform with **FastAPI, PostgreSQL, Redis**, and **AWS (ECS, Lambda)** to track **2M+ cloud assets**, enabling real-time ingestion and normalization
- Integrated **Isolation Forest** for production **anomaly detection**, powering real-time risk flagging and automated dashboard insights (~60% precision)
- Designed a modular, cloud-native platform with feature parity to a **$200K/year SaaS** solution, reducing projected annual costs by **85%**
- Automated **model retraining pipeline** with feedback loops and **Optuna** for hyperparameter tuning, boosting precision **12%** and reducing manual tuning **30%**

Software Engineer II - Platform | *Aruze Gaming Global - Las Vegas, NV* June 2021 - March 2024

- Designed and shipped the patented Table Poker Progressive System, securing over **150 orders** and generating **multi-million-dollar revenue** within three months
- Optimized hardware-software integration for a casino-grade **IoT system**, leveraging **telemetry** and **memory profiling** for **Raspberry Pi, Arduino, and Teensy**; reduced crashes **60%** and raised uptime to **99.2%**
- Implemented modular platform components with **C++** and **gRPC**, supporting HHR, Class II, and CDS via a plug-in math engine; standardized interfaces to accelerate new-game releases and cut integration time **35%**

TECHNICAL PROJECTS

Fishnet AI | *Indonesia National Research and Innovation Agency (BRIN)* May 2025 - Present

- Built a **machine learning pipeline** for fishing and activity classification with **120,000+ AIS records** and **100+ GB satellite data**
- Trained **LightGBM** and **XGBoost** models with **Optuna** for **hyperparameter tuning**, **spatiotemporal features**, and **class-imbalance handling**
- Achieved **68% accuracy (AUC 0.71)** on presence detection and **62% precision** on activity type

PresenTuneAI | *OpenAI Hackathon* August 2025 - September 2025

- Created a **4,700-pair/33 GB corpus** with **OCR** and **LLM cleanup** (**Groq, GPT-OSS-20B**)
- **LoRA-tuned GPT-OSS-20B** with **PyTorch (FP16/MXFP4)**: **95% JSON schema adherence** and **75%** fewer edits
- Deployed **multi-agent tool calling** for automated content and media generation, with **production inference** and **PPTX/PDF export**

SkillMatchAI | *Hackathon Project* April 2025

- Deployed a **Generative AI** career assistant (**Gemini API**, **Pinecone**), achieving **74% top 5 job-match accuracy**
- Engineered an **embedding-based retrieval pipeline** for **real-time matching 50,000+ jobs** and **3,000+ profiles**
- Integrated **CI/CD pipeline** and **unit tests** for **FastAPI** and **ML services**, reducing **deployment issues by 60%**

PATENT

US 2024/0046760 A1 - Progressive Poker Jackpot System (published Feb 8, 2024; filed Aug 5, 2022)