MICHAEL PELUSO

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PROFESSIONAL EXPERIENCE

Backend Software Developer – *GameRun*   **September 2024 – December 2024**
- Built a live-streaming sports platform with highlight generation, performance analysis, and insights. Capstone project placed **2nd** of **28**.
- Enhanced processing speed by **10x** via asynchronous, concurrent, batching, and bucketing algorithms (120+ minutes of footage in ~25 minutes).
- Automated AI-driven, player video analysis with **AWS** Lambda, SageMaker, Rekognition, and **OpenAI** using facial and jersey recognition.
- Developed **18** API routes with **Postman**, connecting **MongoDB** and **AWS** services for efficient data pipelining.

STRIDE Software Developer | CTO team – *ASRC Federal*   **June 2024 – August 2024**
- Led the full-cycle, development of *PANDORA*, an AI-powered solution for NASA satellite research as part of an **R&D** initiative.
- Reduced API costs by **50%** through prompt engineering, batch processing, and fine-tuning while ensuring deterministic AI results.
- Implemented **NLP**-driven resource management using OpenAI's **ChatGPT** and **Python** libraries like Pandas, NumPy, and Matplotlib.

IT Quality Assurance Technician – *Outsource My I.T.*   **January 2024**
- Managed IT and system issues for **300+ clients** via Kaseya, addressing client security, program maintenance, and user account administration.
- Diagnosed and resolved technical challenges (DNS configurations, connectivity) with a team, improving network stability and user experience.

Website Developer – *The Guitar Shop* – *theguitarshop.co*   **June 2023 – September 2023**
- Singlehandedly designed and developed a custom **12-page** company website managed via Google Cloud Platform.
- Deployed a dynamically updating product library and filtering system for **100+ products**, boosting customer engagement and sales.
- Established online customer service outlets via embedded email support.

Website Developer – *C3 Designs LLC*   **April 2023 – August 2023**
- Transformed visions from clients into **3+** fully functional, interactive web applications, offering an online presence and increasing awareness.
- Created **10+** dynamic, interactive elements like navigation bars, carousels, and store reviews via WordPress and WordPress Engine.

PROJECTS

Programming Snippets – *Discrete, one-week projects - GitHub Project Files*   **October 2023 – Present**
- *Binary to Float*: Bit-level memory manipulation in C.
- *ML Market Insights*: K-means **clustering** and random forest analysis.
- *Neural Networks*: **Backpropagation** and gradient descent in Python.
- *Spatial Hash*: O(n+k) 2D particle engine.
- *Binary Search*: **AVL**-balanced tree implementation in Java.
- *Motion Detector*: Realtime video processor online.
- *Processor Sim*: Multitasking, preemption, and time slicing.

Wallet Network – *GitHub Project Files (report included)*   **November 2024 – December 2024**
- Built a Flask backend with **10+** RESTful endpoints, each executing up to **12+** SQL queries for banking, account, and transaction processing.
- Designed a MySQL database schema in **3NF** with **7** normalized tables, **5** foreign keys, and composite key constraints.

Git Guru – *GitHub Project Files (demo video)*   **April 2024 – May 2024**
- AI-powered tool that generates customized readme.md files, detects syntax errors, and offers inquiry-based assistance for any GitHub repository.
- Used retrieval augmented generation(**RAG**) and **vector search** in Python using **LangChain** and **OpenAI** API to slice, embed, and store files.
- Designed a Flask-based UI enabling users to select and store repository files and query questions with real-time, direct output from ChatGPT.

BookQuest – *GitHub Project Files*   **January 2024 – May 2024**
- A full-stack web application with a **multi-environment** deployment pipeline using Apache, MySQL, PHP, RabbitMQ, Docker, and Traefik.
- Orchestrated a secure, asynchronous **message-driven** architecture with VirtualBox and RabbitMQ, enabling encrypted user verification and authentication, **cross-cluster** logging synchronization, local caching, and back-end database search functionalities.
- Used custom scripts to automate virtual machine provisioning, service orchestration, containerized hosting, load balancing, traffic distribution, and database replication across development, test, and production clusters.

Communica Social – *GitHub Project Files*   **September 2023 – December 2023**
- Organized and maintained a MongoDB database with **300+ records** of user account data and user-made posts via web routing and API requests.
- Successfully integrated a custom-built CRUD API, written with Node.js and Express.js, into a full-stack, social media application comprised of users, user accounts, and public posts.
- Scripted front-end login, search, and post forms in **React.js**, allowing users to reference and update their account and the **MongoDB** database.

EDUCATION

Master of Science in Computer Science   *GPA: 3.8 / 4.0*
Georgia Institute of Technology (online/part-time)   **September 2025 – Present**
New Jersey Institute of Technology   **January 2023 – May 2025**

Bachelor of Science in Information Technology   *GPA: 3.6 / 4.0*
New Jersey Institute of Technology – *Honors College*   **September 2021 – December 2024**
Minors: Computer Science, Web and Mobile Development

Organizations: Albert Dorman Honors College, Dean's Scholars List, Google Developer Groups on Campus, ACM, Programming Team, IGDA

Relevant Courses: Web Mining & Information Retrieval, Advanced Internet Applications, Database Management System Design, Programming Language Concepts, Computer Systems Architecture, Content Management Systems, Operating System Design, Software Testing and QA

SKILLS

Programming & Development: JavaScript, Python, Java, C/C++, R, PHP, SQL, Node.js, React.js, Assembly

Software Engineering: Object-Oriented Programming (OOP), Cloud computing, DevOps, Algorithms & Data Structures

AI & Data Science: Deep Learning, Neural Networks, RAG, NLP, Computer Vision, OpenAI & LangChain APIs

Tools & Platforms: GCP, AWS, Docker, VirtualBox, RabbitMQ, Git/GitHub, Linux/Unix, Postman

Database Management: MongoDB, MySQL, Oracle SQL Developer, Postgres, PhpMyAdmin