Bohdan T.
Middle AI/ML Engineer / Full Stack Developer

SUMMARY

- AI/ML Engineer with 3 years of experience delivering production-ready machine learning systems, including real-time generative AI avatars and multi-agent orchestration frameworks.
- Proficient in Python, PyTorch, FastAPI, and LLM ecosystems (OpenAI, LLaMA, LangChain), with strong expertise in deploying scalable AI solutions using Docker and AWS cloud services.
- Skilled in full ML lifecycle: data engineering, model training, deployment, monitoring, and optimization, demonstrated by building an AI-driven ad bid price optimization model and modular workflow systems.

TECHNICAL SKILLS

Main Technical Skills	Python (3 yr.), PyTorch (2 yr.), FastAPI (2 yr.), JavaScript (1 yr.), TypeScript (1 yr.)
Programming Languages	JavaScript (1 yr.), Python (3 yr.), TypeScript (1 yr.)
Python Frameworks	FastAPI (2 yr.), Flask (1 yr.)
AI & Machine Learning	LangChain (1 yr.), LLaMA (1 yr.), n8n (1 yr.), NumPy (1 yr.), OpenAI (2 yr.), PandasAI (1 yr.), PyTorch (2 yr.), Scikit-learn (1 yr.), Xgboost (1 yr.)
Python Libraries and Tools	Matplotlib (1 yr.), NumPy (1 yr.), Plotly (1 yr.), Pydantic (1 yr.), pytest (1 yr.), PyTorch (2 yr.), Scikit-learn (1 yr.)
JavaScript Frameworks	NestJS (1 yr.), Node.js (1 yr.), React (1 yr.), Svelte (1 yr.)
Java Frameworks	Play Framework (1 yr.)
Scala Frameworks	Play Framework (1 yr.)
JavaScript Libraries and Tools	Redux-Saga (1 yr.)
Data Analysis and Visualization Technologies	LightGBM (1 yr.), PandasAI (1 yr.)
Databases & Management Systems / ORM	MongoDB (1 yr.), MySQL (1 yr.), Neo4j (1 yr.), PostgreSQL (2 yr.), Redis (1 yr.), SQL (3 yr.), SQLAlchemy (1 yr.), SQLite (1 yr.)
UI Frameworks, Libraries, and Browsers	HTML (1 yr.), LESS (1 yr.), Material UI (1 yr.), Tailwind CSS (1 yr.)
Amazon Web Services	AWS Boto3 (1 yr.)

SDK / API and Integrations	FastAPI (2 yr.), RESTful API (1 yr.)
Codecs & Media Containers	Ffmpeg (1 yr.)
QA, Test Automation, Security	Jest (1 yr.), pytest (1 yr.)
Mail / Network Protocols / Data transfer	WebRTC (1 yr.)
Other Technical Skills	Groq (1 yr.), nunjucks (1 yr.), Unreal Engine (1 yr.)

WORK EXPERIENCE

AI/ML Engineer (Interactive Real-Time Video Avatar with Lip-Sync)

Duration: 1 year
Summary:

- Built an AI-powered real-time video avatar capable of natural interaction with users, featuring precise lip-sync aligned to generated or user-provided speech
- The system combined face animation models, audio-to-visual synchronization, and dynamic response generation, enabling the avatar to hold live, human-like conversations
- Integrated speech synthesis, real-time rendering, and dialogue management to deliver smooth and responsive user experiences

Responsibilities:

- Developed a live animated video avatar supporting real-time interactions with accurate lip-sync;
- Integrated audio-driven facial animation models to map phonemes to mouth shapes and facial expressions;
- Implemented pipelines for speech-to-text, LLM-based response generation, and TTS audio synthesis;
- Optimized avatar rendering for low-latency streaming and synchronized audio-visual output;
- Built APIs and orchestration logic to manage conversations, avatar states, and user context.

Technologies: Python, FastAPI, PyTorch, OpenCV, SyncTalk, InfiniTalk, RunPod, Librosa, aiortc, ElevenLabs, Groq, WebRTC, FFMPEG, Docker, GPU acceleration

AI & ML Engineer (AI-Powered Modular Workflow System)

Duration: 1 year
Summary:

- Designed and implemented a modular multi-agent workflow system capable of executing complex pipelines either through predefined plans or dynamic orchestration by an agent controller
- Integrated the MCP library with server-side connectors for PostgreSQL, S3, and Brave Search, enabling agents to retrieve, store, and process data autonomously

Responsibilities:

- Designed and deployed a multi-agent orchestration system built around hybrid agent-orchestrators with support for modular workflows;
- Integrated the MCP library with server-side connectors;
- Built API endpoints and controller logic in FastAPI to enable smooth orchestration;
- Connected agents to PostgreSQL and S3 for persistent storage, as well as to Brave Search for data enrichment;
- Ensured robust data validation and serialization using Pydantic models.

Technologies: LlamaIndex, OpenAI, MCP, FastAPI, Postgres, Pydantic, Docker, n8n

AI/ML Engineer (AI-Driven Ad Bid Price Optimization Model)

Duration: 1 year
Summary:

- Developed and trained a machine learning model to predict the most optimal (lowest effective) bid price for digital advertising campaigns
- The system analyzed historical performance data, market dynamics, and contextual features to generate accurate price recommendations aimed at maximizing ROI while minimizing ad spend
- Implemented a full ML lifecycle – from data preparation and feature engineering to model training, evaluation, and deployment

Responsibilities:

- Designed and trained ML models to forecast the optimal minimum bid price for advertising placements;
- Performed data preprocessing, feature extraction, and time-series enrichment using historical campaign data;
- Evaluated multiple model families (regression models, tree-based methods, and gradient boosting) to identify the best-performing approach;
- Implemented automated pipelines for model training, validation, and hyperparameter tuning;
- Deployed the final model into production with monitoring for prediction stability and performance drift.

Technologies: Python, Scikit-learn, XGBoost/LightGBM, Pandas, NumPy, Docker, AWS Lambda, Autogluon

Full Stack Python Developer (Enterprise Web Platform Development & Maintenance)

Duration: 1 year
Summary:

- Developed and maintained a large-scale web platform for an enterprise client specializing in cloud and on-premise infrastructure solutions
- The project involved creating user-facing interfaces, internal dashboards, and configuration tools used by corporate customers to manage cloud services, monitor system performance, and streamline operational workflows
- Focused on delivering a stable, scalable, and intuitive front-end experience aligned with enterprise standards

Responsibilities:

- Designed and developed both frontend and backend features for the enterprise platform;
- Built and maintained RESTful APIs and integrated them with frontend components;
- Implemented business logic and data processing on the backend using Python;
- Developed reusable UI components, optimized performance, and ensured consistent UX;
- Collaborated closely with designers, frontend, backend, and DevOps teams;
- Ensured code quality through reviews, refactoring, testing, and optimization;
- Followed enterprise standards for security, scalability, and maintainability.

Technologies: Python, REST APIs, JavaScript / TypeScript, HTML, LESS (CSS), Nunjucks, Redux, SQL/Databases

EDUCATION

- **Master's degree Ivan Franko National University of Lviv**
  Philology (Japanese)
- **Bachelor's degree Ivan Franko National University of Lviv**
  Philology (Japanese)