Bohdan T.

AI/ML Engineer /
Full Stack Developer

Summary of Qualifications	AI/ML Engineer with 3 years of experience in the field and strong hands-on experience in building production-ready machine learning systems, multi-agent orchestration frameworks, real-time generative AI applications, and predictive modeling solutions. My expertise spans the full ML lifecycle – from data engineering and model training to deployment, monitoring, and scaling in cloud environments. Previously worked as a Frontend Developer, which gives me a solid understanding of application architecture, API integration, and UI/UX constraints. Tech stack includes Python, PyTorch, Scikit-learn, FastAPI, LLM ecosystems (OpenAI, LLaMA, LangChain), CV/ASR/TTS frameworks, as well as strong knowledge of JavaScript/TypeScript, HTL, and modern frontend tooling. Experienced with Docker, cloud services (AWS), SQL/NoSQL databases, and agile development practices. Passionate about creating intelligent, robust, and scalable AI-driven products.

Skills

Programming Languages/Technologies

- Software Architecture Design/Reverse Engineering/ Design Patterns
- Technical Documentation/Proposals
- XML/JSON/YAML
- JavaScript/TypeScript
- Python
- React Native
- Liquid
- Nunjucks
- Redux
- SQL

AI/ML Tools

- OpenAI (Whisper, ChatGPT)
- OpenCV
- Prompt Engineering
- Content Summarization
- HeyGen
- LangChain, LangSmith
- LLaMa-3, Claude
- ElevenLabs
- Stable Diffusion
- PyTorch
- Transformers
- Scikit-learn
- RAG
- AI Agents
- Groq
- Autogluon

RDBMS

- MySQL
- PostgreSQL
- SQLite
- Alembic

Frameworks/Libraries

- Fast API
- Flask
- Node.js
- Nest.js
- React.js
- Svelte
- Tailwind
- Material UI
- 11ty
- SQLAlchemy
- Boto3
- bs4
- Numpy/Pandas
- Matplotlib
- Plotly
- AIOHTTP
- Streamlit
- Selenium
- n8n

CMS

- Craft CMS
- Contentful

Cloud Providers

- AWS

Development Tools

- Lottie
- Local
- Unreal Engine 5
- Unity

Containerization Tools

- Docker

Testing Tools

	NoSQL ▪ Redis ▪ MongoDB ▪ Neo4j ▪ Postman ▪ Pytest ▪ Unitest, Mock ▪ Jest

Experience

Interactive Real-Time Video Avatar with Lip-Sync

Project Description:	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.
Domains:	Generative AI | Computer Vision | Multimedia Processing
Involvement Durations:	1 year
Project Role:	AI/ML Engineer
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.
Project Team Size:	7-9 team members
Tools & Technologies:	Python, FastAPI, PyTorch, OpenCV, SyncTalk, InfiniTalk, RunPod, Librosa, aiortc, ElevenLabs, Groq, WebRTC, FFMPEG, Docker, GPU acceleration.

AI-Powered Modular Workflow System

Project Description:	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.
Domain:	AI & ML | Automation
Involvement Duration:	1 year
Project Role:	AI & ML Engineer
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.
Project Team Size:	3-5 team members
Tools & Technologies:	LlamaIndex, OpenAI, MCP, FastAPI, Postgres, Pydantic, Docker, n8n.

AI-Driven Ad Bid Price Optimization Model

Project Description:	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.
Domains:	AI & ML | Predictive Modeling | AdTech
Involvement Durations:	1 year
Project Role:	AI/ML Engineer
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.
Project Team Size:	2-4 team members
Tools & Technologies:	Python, Scikit-learn, XGBoost/LightGBM, Pandas, NumPy, Docker, AWS Lambda, Autogluon.

	Enterprise Web Platform Development & Maintenance
Project Description:	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.
Domains:	Enterprise Software | Cloud Solutions
Involvement Durations:	1 year
Project Role:	Full Stack Python Developer
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.
Project Team Size:	40-50 team members
Tools & 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)

Languages	**English**: Upper-Intermediate

	Japanese: Conversational **Polish**: Conversational **Ukrainian**: Native **Russian:** Native