

Chuck Girts Bolevics

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EXPERIENCE

Software Engineer, Machine Learning

May 2023 – Now

IBM UK

London, UK

- Developed an NL2SQL agent-based tool for natural language interaction with PostgreSQL for a client in financial sector, built with Vue.js, Tailwind, and Python. POC secured £1.5M in funding and is being productionized.
- Collaborated with cross-functional teams to deliver scalable RAG-based systems using technologies like Milvus, LLaMA, and Sentence Transformers, enabling IBM's clients to retrieve internal information efficiently.
- Engineered a governance framework for monitoring production LLMs with real-time guardrails for compliance and safety, integrating Ragas, Watsonx.governance, and Nvidia TensorRT-LLM.

Machine Learning Engineer

Jun 2022 – May 2023

IBM UK

London, UK

- Designed and implemented a computer vision object detection system for the defense sector, utilizing PyTorch and TensorFlow, trained on a dataset of over 14K images, and deployed models on edge for real-time applications.
- Built a speech-to-text NLP pipeline combining fine-tuned Whisper model, speaker diarization, keyword extraction, and summarization using AWS and BERT models, reducing speech analysis time by 20%.
- Developed and presented multiple ETL proof-of-concept solutions using Snowflake and AWS S3, directly contributing to securing a financial sector contract. Demonstrating the ability of data transformation.

Software Engineer Intern

Jun 2021 – Sep 2021

IBM UK

London, UK

- Built a full-stack application featuring a 3D digital twin of client factories, utilizing Python, Vue.js, Flask, Babylon.js, IBM Object Storage. The solution allowed customers track their products in circular economy.
- Designed and developed a prototype digital card for Google Wallet using Java and Apple Pay using Swift, aimed at facilitating voucher storage generated from recycling efforts. The project focused on promoting sustainable practices by seamlessly integrating recycling rewards into digital payment ecosystems.
- Directed a 4-person team through Agile development across 5 sprints, with weekly feedback sessions from IBM mentors, client playbacks and workshops resulting in a client-approved MVP.

EDUCATION

University of Southampton

Southampton, UK

Master of Engineering in Computer Science with Artificial Intelligence

2021 – 2022

University of Southampton

Southampton, UK

Bachelor of Science in Computer Science

2017 – 2021

TECHNICAL SKILLS

Languages: Python, Java, Haskell, TypeScript, Swift, SQL, HTML, CSS

Frameworks and Tools: PyTorch, scikit-learn, FastAPI, Vue.js, LangChain, Tailwind, Hugging Face, DSPy

Cloud and DevOps: AWS, GCP, Azure, TensorRT-LLM, Snowflake, IBM Cloud, Milvus, Postgres, ChromaDB

PROJECTS

ParagonAI: RAG-Powered Knowledge Base Builder and Q&A System | *Vue.js, FastAPI, LangChain*

- Developed a RAG-powered knowledge base builder and Q&A system enabling users to import information from URLs and receive precise, context-aware answers.
- Used ChromaDB for semantic search and utilised models from OpenAI to generate answers from retrieved info.

Controlling Reconfigurable Intelligent Surface with Deep Learning Models | *PyTorch, Matplotlib*

- Designed and developed multiple ML models to control Reconfigurable Intelligent Surfaces for InterDigital.
- Project achieved a mark of 75% and contributed to advancements in surface reconfiguration research.

Interacting with UI in Augmented Reality Using Hand Gestures | *scikit-learn, Swift*

- Developed a full-stack system connected to an AI model for hand gesture processing to enable UI interaction in Augmented Reality.
- Created AR environment in an iOS app using Swift and trained multiple hand gesture models using scikit-learn and PyTorch. Project received a distinction with a mark of 82%.