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| Hemanto Bairagi | 7-56 Radcliffe Cres S.E, AB T2A 6L9 Calgary T2A 6L9, 7-56 Radcliffe Cres S.E, AB  5872168171  hemanto.bairagi@alumni.ucalgary.ca |

Summary

* Software Engineering specializing in Machine Learning, Artificial Intelligence & Python development.
* Transitioned from Physics to Financial Physics and Engineering to Software Engineering professionally.
* GitHub Link: <https://github.com/Orko24>
* LinkedIn Link: <https://www.linkedin.com/in/hemanto-bairagi-865027101/>
* Portfolio Link Web: <https://orko24.github.io/react_repository/>
* Portfolio Link PDF: <https://github.com/Orko24/Portfolio_Hemanto_Bairagi>
* Specializes in Python, C/C++, Go / Golang programming languages, and SQL.

Relevant Skills

* Bachelor of Science – Hons in Physics and Astrophysics with an emphasis on Software Engineering.

ReCENT AND RELEVANT Experience

ICE Process Management LLC/Bravura AI. April 2024 to present

Software Consultant:

* The role is to provide software consulting regarding software design, rollout, development, and production.
* Skills gained: Investment Analysis, Private Equity Evaluation Analysis, software development design processes, Investor Relations, Market Analysis, and Business Strategy.
* Designed Investor presentations, market analysis, software budget analysis, and software development process analysis.

Software & Artificial Intelligence Engineer:

* **Role**: Designed and developed backend architecture for a Large Language Model (LLM) to generate chatbots from a general knowledge domain.
* **Skills Gained**: Expertise in SQLite, Python, NLP, LLM (Lang-Chain, Chroma DB, Llama3, OpenAI), SQL Alchemy, web application design, data pipelines, OCR, AI, vector databases, RAG systems, and chatbot development with tools like Pandas, NumPy, ChatGPT, and Microsoft Co-pilot.
* **Project**: Built a data processing system to convert hundreds of PDFs into a structured SQL database, enabling vectorization for a vector database foundation. This system powers chatbots integrated into web applications for the Network Security industry.

Senior Artificial Intelligence Engineer:

* **Role**: Designed a technology stack to transform raw, unstructured data into structured formats to enhance decision-making and generate alpha, with a focus on knowledge-based fields.
* **Skills Gained**: Proficient in SQLite, Python, NLP, Hugging Face LLMs, LangChain, Chroma DB, SQL Alchemy, web application design, data pipelines, OCR, vector databases, RAG systems, Prompt Engineering, ChatGPT, Microsoft Co-pilot, Llama3, OpenAI, data science, data engineering, Agile development, FAISS, data and text classification, SQL/NoSQL, version control, Git, Azure cloud, microservices, encryption, and PowerShell.
* **Development Focus**: Processed HTML, JSON, XML, MD, and PDF files into retrieval data for LLMs like Phi and Llama, leveraging prompt engineering to generate insights for various fields.
* **Responsibilities**: Led software architecture, managed junior engineers, developed Python packages and apps, oversaw data flow and quality management, data storage, and binary development.
* **Collaboration**: Worked closely with management to translate requirements into actionable tasks and collaborated with a cross-functional team to create AI solutions for the automation industry.

Helios CTA July 2024 to September 2024

Software Engineer:

* **Role**: Designed and implemented software to support commodity trading operations, focusing on data integration and streamlined information flow.
* **Skills Gained**: Proficient in investment analysis, commodity demand and supply chain analysis, data filtration, software design, market analysis, Snowflake, PyQT6, data science, PowerShell, Azure, JSON, REST APIs, FAST API, Excel, options, and futures analysis.
* **Commodity Focus and Data Management**: Developed integrated desktop and web applications using PyQT6 and Snowflake, specializing in power, natural gas, and oil derivatives. Enhanced dataflow in trading applications by integrating REST APIs (ERCOT, PJM) and utilized Snowflake, SQL, and Pandas to filter and organize weather and commodity data (e.g., ERCOT power prices), providing actionable insights energy markets.

Scale AI: Remote Tasks. Jan 2024 to June 2024

AI Consultant:

* **Role**: Designed, evaluated, and ensured the quality of LLM (Large Language Model) performance across diverse applications.
* **Skills Gained**: Proficient in Python, Golang, SQL (PostgreSQL, SQLite, BigQuery), Java, C++, JavaScript, TypeScript, React, NextJS, Prompt Engineering, LLMs & Foundation Models (Flamingo), Database and Data Engineering, Software Quality Assurance, Machine Learning, Artificial Intelligence, and Generative AI.
* **Data Engineering**: Skilled in Python, Azure Data Studio, Pandas, PostgreSQL integration, JSON, Kaggle API, and Hugging Face API, specializing in data structuring and pipeline management.
* **Database Engineering**: Extensive experience with SQL (BigQuery, PostgreSQL, SQLite) for query building, debugging, and deployment; quality assurance across Python, Golang, SQL, Java, and C++ codebases.

IBM Startup Partner Program; Adamas Audio Jan 2022 to Jan 2024

Lead Software Engineer and Software Architect:

* **Role**: Led the design, development, and deployment of Adamas Audio, a scalable platform for custom audiobook creation, within a test-driven, agile environment.
* **Skills Gained**: Python, Java, ML/AI libraries (Keras, PyTorch, TensorFlow), API development, frontend (HTML, CSS, JavaScript), ETL, C++, C#, Golang, SQL, site operations, cloud computing (Azure, AWS, IBM Cloud), Django, Flask, Redis, Celery, Linux, Git, cryptography, SSL, cybersecurity, data analysis, and data science.
* **Key Contributions**:
  + Developed Web Application that used a Machine Learning Backend to produce Audiobooks from raw text, full details of the project can be found here: <https://adamas-audio.medium.com/adamas-audio-machine-learning-and-web-development-to-produce-cheap-audiobooks-and-voice-cloning-a05608e4485f>.

Education & Training

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| Bachelor of Science: Astrophysics  University of Calgary  Calgary, AB  From Sept 2016 to Feb 2021   * Achieved Honors * Dean's List Honoree [2020] * GPA: 3.5/4.0 | Bachelor of Science: Physics  University of Calgary  From Sept 2016 to Feb 2021   * Achieved Honors * Dean's List Honoree [2020] * GPA: 3.5/4.0 |

RefERENCES can be provided upon request

* <https://www.linkedin.com/in/paul-barclay-648a1531/>
* <https://www.linkedin.com/in/jason-donev-76659922/>
* <https://www.linkedin.com/in/brian-mcwhorter-464b532b/>