HEMANTO BAIRAGI

7-56 Radcliffe Cres S.E, AB T2A 6L9 Calgary
5872168171
hemanto.bairagi@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: https://github.com/Orko24/Portfolio_Hemanto_Bairagi
- Specializes in Python, Machine Learning, C/C++, Golang programming languages.
- Web Application & Frontend development.
- Experienced in Full Software Development Life Cycle (SDLC).

SKILLS

- Software Engineering & Software Development.
- Python Programming & Machine Learning.
- Data Science & Quantitative Analysis.
- DevOps & DevSecOps.
- Databases Development.
- Algorithm Development & MLOps.

EXPERIENCE

Lead Software Engineer and Software Architect — Jan 2022 to present

IBM Startup Partner Program; Adamas Audio:

- Role was to design, develop, produce, deploy code for Adamas Audio. Currently running ongoing postproduction support, in an Software Development Life Cycle (SDLC).
- Code was developed in a test-driven agile environment, where discussions on code implementation, testing and software architecture were facilitated. IBM Cloud support team was heavily involved in web application deployment to resolve any design and coding issues.
- Skills gained: Python, Java, Machine Learning, Artificial Intelligence, Machine Learning Libraries like Keras, PyTorch, Tensorflow, Sci-kit Learn, Pandas, Numpy, etc. API development, Frontend: HTML, CSS, JavaScript, Node.js, ETL software. Programming Languages like: Python, Java, C++, C#, C, Golang, MATLAB, Mathematica, SQL. Site Operation Management, DNS, Domain Transfer, Site Migration, Cloud Computing, Django, Flask, Redis & Celery data development and integration. Linux, Bash Script, Git, GitHub, GitOps, Cryptography, SSL & Cyber Security, Data Analysis & Data Science.
- The site was migrated from Google Cloud to Liquid web to IBM Cloud bare metal traditional servers.
- Service went down April 14th due to cost, have been approved by IBM's partner program and am currently receiving $3000 USD for 6 months in funding starting May 1st.
- Postproduction updates written in Golang, Java and C++ to ensure scalability and patentability when profitable, are being applied. Update and update progress hosted in this GitHub repository: https://github.com/Orko24/FFMPEG_Golang_replacement
- The purpose of Adamas Audio was to allow customers to create custom audiobooks at scale. It is currently hosted at: https://www.adamasaudio.com. Full article detailing it can be found https://adamas-audio.medium.com/adamas-audio-machine-learning-and-web-development-to-produce-cheap-audiobooks-and-voice-cloning-a05608e4485f.
- The components of Adamas Audio were Frontend REST APIs, client data management system, Backend Data Deriving API's, Django Middleware. These components were developed in a Test-driven environment using agile methodology.
- Frontend REST API was coded in HTML, CSS, JavaScript. Initialized frontend of the data pipeline. Django Middleware integrated data pipeline from frontend to backend.
- Backend data processing APIs built in Python, C++, C#, C, Java, Golang, SQL. Client database management system doubled up as a data governance policy, to allow security at scale.

- Integrated frontend to backend data pipeline allowed derived datasets and data products per client API request to be created and passed from server to client via the pipeline built through Django Middleware.
- Data products were built using Machine Learning libraries like: Pytorch, Tensorflow, Keras, Scikit-learn, Pandas, Numpy, etc.
- Adamas Audio was hosted using Apache, Apache server instance templates written in C/C++ are given here: https://github.com/Orko24/Apache_django_ssl_web_integration. SSL certificates integrated into DNS Apache pipeline, allowing HTTPS technology to encrypt all web traffic to and from the server per API client request.

Quant-connect June 2020 to Jan 2022

Algorithmic Trader June 2020 to Jan 2022

- Made the transition from Physics to Financial Physics and Financial Engineering. Allowed the gaining of experience in Financial Engineering, Software Development and Algorithm Development.
- Algorithms were designed to generate quantitative alpha using Machine Learning to produce long, short and sell signals in a Lean Python framework (https://www.lean.io/#topic100.html).
- Algorithms were developed in Python.

Undergraduate Researcher Sept 2019 to June 2020

University of Calgary

- Utilized C++/C to program an Arduino to track photons emitted from experimental green laser.
- Experience utilizing programming languages like Python, C++, C, Mathematica, and MATLAB in a professional research setting.
- Thesis given in this GitHub repository: https://github.com/Orko24/ODMR_thesis/blob/master/Hemanto_Bairagi_Final_Report_Draft_3%20(1).pdf
- Link verifying research: http://quantumalberta.ca/wp-content/uploads/2020/12/IQST-2020-Report.pdf
- ODMR thesis: Worked on building a building an optically detected magnetic resonance (ODMR) microscope, with the intent of mind to use qubits to produce nanoscale imagery and video.

EDUCATION & TRAINING

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

REFFERALS CAN BE PROVIDED UPON REQUEST

- https://www.linkedin.com/in/paul-barclay-648a1531/
- https://www.linkedin.com/in/jason-donev-76659922/