HEMANTO BAIRAGI

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- Bachelor's or Master's degree (or higher) in information technology, computer science, or related quantitative field or equivalent experience
- Less than 3 years of recent hands-on experience in software design and development
- Desire to code at least 80% of the time
- Some development experience and knowledge in Java (JDK 17+) and Java languages (JavaScript) with some experience in unit testing
- Some knowledge in RESTful APIs, distributed services, microservices architecture, service implementation and debugging in distributed applications in a Linux environment
- Good knowledge of O b ject oriented design patterns .
- Knowledge of test-driven development
- Experience using Jira and developing Agile software
- Good written and oral communication skills in English
- Knowledge of Git

- Knowledge and experience in SpringBoot
- Experience in developing and deploying applications in Kubernetes or any other Kubernetes compatible container orchestrator
- Hands-on experience with Microsoft Azure
- Hands-on experience with Kubernetes, Helm, Terraform.
- Working knowledge of containerization, virtualization, and service orchestration (Container, Docker, Kubernetes and Service Mesh)
- Knowledge of telecommunications networks (packet core and radio – > 4G and 5G) : protocol/applications/interfaces
- Familiarity with free open source software, their principles and licenses
- Knowledge or good experience and development skills in Python, GoLang
- Knowledge Maven, Gradle, IntelliJ or other IDE
- ELK, Data Analysis, Monitoring
- knowledge and experience of different database technologies (SQL, NonSQL)

https://jobs.ericsson.com/job/Montreal-D%25C3%25A9veloppeur-de-logiciels-Software-Developer-Queb/772549202/?feedId=322400&jobPipeline=LinkedIn&utm_source=LinkedInJobPostings

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/

SKILLS

- Software Design & Development.
- Python Programming, Machine Learning & Object Oriented Programming.
- Databases
- Data Science & Data Analysis
- DevOps
- Web Development.

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.
- Skills gained: Python, Java, Machine Learning, Artificial Intelligence, Networking & Telecommunications, 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 (Familiarity with Springboot). Site Operation Management, DNS, Domain Transfer, Site Migration, Cloud Computing Cloud Native Application trouble shooting & public Cloud Technologies, Django, Flask, Redis & Celery data development and integration. Linux, Bash Script, Git, GitHub, GitOps, Cryptography, SSL & Cyber Security, Data Analysis & Data Science. Database & Microservice development. Experience in IntelliJ based IDE's like Pycharm, IntelliJ, CLion etc.
- Recently Site Operations Management and Migration was performed on the site to migrate the web application from Liquid-web dedicated servers to IBM Bare-metal 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, and will be free and open source: 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 were integrated into a DNS to Apache pipeline. This allowed HTTPS technology to encrypt all web traffic per client API request. Django-RQ, SQL and Redis were utilized to ensure all client requests run asynchronously per request at scale.
- The web application, Adamas Audio was prototyped and developed in test driven environment based utilizing agile methodology.
- in Google Cloud environment and deployed to production in an IBM cloud environment. Similar hands-on experience of working with Microsoft Azure was gained. Working knowledge of Kubernetes, Containerization and virtualization.

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 developed in Python.
- Developed Algorithms integrating machine learning algorithms for data analysis using a data point integrating it into a live data trading feed using lean trading engine Framework: https://www.lean.io/#topic100.html .

- Back-end Derived Data API's utilized algorithms primarily statistical mathematics and deep learning to predict price models trends for commodity futures, public equities, and ETF's.
- Fundamental Pricing Framework algorithms were developed that take into accounts of Fundamental factors of public equities to create a buy/sell model based on the factors.

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.
- Gained knowledge of telecommunication networks, during research on photonic behavior (Radio waves, 4G, LTE, knowledge of 5G).
- Experience utilizing programming languages like Python, C++, C, Mathematica, and MATLAB in a professional research setting.
- Thesis is 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