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Nov 13th, 2024

Company\_X

RE: Position\_X

Dear Hiring Manager,

Please accept this letter expressing my interest in the Position\_X position. I am a highly motivated and progress-focused Senior Artificial Intelligence and Software Engineer with a long-standing background in this industry. Throughout my career, I have shown a track record of initiative and dependability; furthermore, I have devised strategic initiatives that I believe will prove valuable to Company\_X. Throughout my career, I have perfected my skills in designing and implementing software architecture, applications, and algorithms. I have a double honor in Physics and Astrophysics from the University of Calgary with a background in Software Engineering that satisfies education requirements. My academic background in Physics and Astrophysics gives me an industry edge, allowing me to take an outside-of-the-box approach and see small connections that reduce costs and increase performance in the software development cycle. My technical expertise includes but is not limited to Generative Artificial Intelligence, Python development, Web Application development, Desktop Application development, DevOps, Machine Learning, Data Science, and Data Engineering. I believe this background allows me to provide sophisticated data analytical solutions to software problems in a cheap and scalable fashion and learn any required technologies at a rapid pace to keep up in a work environment and keep costs down while keeping performance up. Thus, I believe I will be an asset to Company\_X, as my expertise and experience allow me to generate scalable and cost-effective solutions.

In my current role, as a Senior Artificial Intelligence Engineer at Bravura AI/ ICE Process Management, my role is to develop software infrastructure and manage junior engineers that turn non-structured, non-normalized, and decentralized data into unified, centralized, and normalized datasets to produce alpha-driven solutions. This is done by taking software that takes data from raw data sources such as CHM, HMTL, JSON, PDF, and Markdown files and turning them into SQL databases, which are then turned into NoSQL vector databases and fed into Large Language Models such as Llama, Phi and other models off Hugging Face. This allows the creation of R.A.G (Retrieval Augmentation Generation) Systems built as chatbots to produce alpha-generated answers based on user prompts. In this role, I direct junior engineers on how to generate structured data from unstructured data that is consumable by the R.A.G systems while I handle the chatbot creation and translate further software requirements to my junior engineers. This allows Senior Artificial Intelligence Engineer at Bravura AI/ ICE Process Management, to create data products to enhance chemical and automation engineering processes. The technologies used to create this IP portfolio include but are not limited to SQLite, Python, NLP, Hugging Face LLMs, LangChain, Chroma DB, SQL Alchemy, web application design, data pipelines, FAST API, 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.

Throughout my previous experiences as a Software Engineer and Software Consultant, I have been familiar with a variety of technologies that include but are not limited to C/C++, Golang, Java, Front end technologies such as HTML, CSS, JavaScript, Algorithm development, Web Development and Application technologies like Fast API and PyQT6, as well as agile development cycles to manage and work with software teams to optimize software production quality and reduce costs while meeting client demands. These other skills were gained primarily by working with companies that focused on AI and web development using C/C++, Python, Golang, Keras, TensorFlow, PyTorch, and Django. As such, I believe this skill set would be a valuable addition to Company\_X and match the requirements of the Position\_X position as requested.

Thus, I am submitting my candidacy to Company\_X as I believe my talents and experience would add value to the firm; furthermore, Additionally, my current employer Brian McWhorter would also be more than happy to vouch for my skills and expertise: <https://www.linkedin.com/in/brian-mcwhorter-464b532b/>. Thus, I would like to gain further experience in my career in a similar field and gain the experience required to thrive in this field. Please take a moment to review my attached resume and credentials. I would greatly appreciate the opportunity to speak with you regarding my candidacy.

Sincerely,

Hemanto Bairagi