BYAMASU PATRICK

With more than 5 years of progressive experience in software engineering, my journey began as a software engineer and evolved into a Senior Software Engineer to AI Engineering roles. Over this period, I have honed my skills in crafting software solutions prioritizing user needs through meticulous requirement analysis and design expertise. I possess the ability to seamlessly facilitate collaboration with diverse teams, effectively translating intricate technical details for non-technical stakeholders. Dedicated to staying updated with industry advancements, I consistently infuse innovation into projects while maintaining rigorous attention to detail, ensuring high-quality deliverables.

CONTACT

📍 Area 14/151, Lilongwe 3, Malawi, 31711

📞 +265996668149

✉️ ptrckbyamasu@gmail.com

SKILLS

- Engineering standards
- Advanced SAP knowledge
- Build releases
- PostgreSQL
- MongoDB
- .NET 6 (Web API)
- NextJS
- React JS
- Typescript (Javascipt)
- Python
- LlamaIndex and LangChain
- Machine Learning and Deep Learning
- TensorFlow
- Keras
- Git and Github
- Jira
- Agile
- Jira

CERTIFICATIONS

- AI for Everyone (DeepLearning.AI - Coursera)
- Neural Network and Deep Learning (DeepLearning.AI - Coursera)

EXPERIENCE

Senior AI Full stack Engineer
Cience - Denver, Colorado, United States of America

10/2023 – 03/2024

- Creating an efficient system architecture for Cience's Go AI platform
- Incorporating and preprocessing custom data.
- Developing Cience's Go AI platform by integrating LLM with custom datasets using LangChain and Pinecone.
- Fine-tuning of LLMs to enhance performance, reduce latency, and increase the speed of content generation, all while significantly cutting computational expenses.
- Leveraging advanced techniques such as Quantization (Low-Rank Adaptation i.e. LoRA), Quantized LoRA i.e. QLoRA), Knowledge distillation, and pruning to achieve these objectives.

Lead AI Engineer
Whatnow Digital - Warsaw, Poland

06/2023 - 02/2024

- Spearheaded the design and construction of efficient Large Language Model (LLM) integrations, tailored to extract insights from custom data sources.
- Collaborated closely with a world-leading private institution specializing in primary immunodeficiency diseases.
- Enabled data-driven decision-making by providing valuable recommendations on research fund allocation based on in-depth data analysis.

Development Team Lead
University of Livingstonia - Mzuzu, Malawi

12/2022 -10/2023

- Collaborated with German and Swedish companies to spearhead the Woven Africa Project, uniting Malawi and neighboring nations for agricultural and educational advancement.
- Currently leading a team in executing strategic tasks, including feasibility analysis for integrating German Dual Studies and developing the Woven Africa 2023 agricultural summit platform.
- Driving Industry 4.0 initiatives to automate agricultural production using technologies like Big Data, AI, Robotics, and IoT, with the aim of achieving food security for Malawi by 2063.

Senior Software Engineer
Whatnow Digital - Warsaw, Poland

- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization (DeepLearning.AI - Coursera)
- Structuring Machine Learning Projects (DeepLearning.AI - Coursera)
- Generative AI with Large Language Models (DeepLearning.AI and AWS)
- Machine Learning Specialization (Standford and DeepLearning.AI)
- Software Architecture & Design of Modern Large Scale Systems (Udemy)
- Introduction to ASP.NET Core Microservices using .NET Core (Udemy)
- Containerised app development with Azure Kubernetes Service (Coursera)
- Microservices Architecture and Implementation on .NET 5 (Udemy)
- Front-Web Development with React (Coursera)
- Introduction to HTML5 (Coursera)
- Java and Android Development (takenoLAB)

ACCOMPLISHMENTS

- Designed and developed a Smart Attendance Management and Monitoring System using Wrist Biometric Bracelet: Case study of University of Livingstonia Laws Campus
- Integrated Large Language Model with custom data to help a world leading private institution focusing on primary immunodeficiency

10/2022 - 01/2024

As a Software Engineer, I shape software design and architecture to meet client needs. My responsibilities include:

Crafting innovative solutions using cutting-edge technologies like Next.js 13 and T3 stack (NextAuth, Prisma, tRPC, Tailwind CSS) for diverse clients.

Implementing software for a global non-profit, specializing in primary immunodeficiency disorders.

Building applications that seamlessly integrate large language models to extract insights from external data.

Leading a digital transformation for a prominent global auction house and marketplace.

Co-Founder
ADAI Circle - Lilongwe, Malawi

02/2020 - Current

Co-founded first Artificial Intelligence Hub called ADAI Circle, where I played a key role in its establishment and growth.

Shaped the company's vision, strategy, and offerings, contributing expertise to develop innovative solutions and educational programs in Software Development, Data Science, AI, and Embedded Systems.

Actively engaged in business development activities, securing partnerships with industry experts, educational institutions, and identifying growth opportunities.

Successfully established a significant partnership with MIT RAISE (Massachusetts Institute of Technology), elevating ADAI Circle's reputation as a premier educational provider in the tech industry.

Fostered a collaborative and inclusive environment at ADAI Circle, providing aspiring

Machine Learning Engineer
Devhaus - Wexford, Ireland

12/2022 - 04/2023

Designed and developed a robust matching algorithm using advanced machine learning techniques within the BuildSpecs domain for Motor Check.

Focused on enhancing accuracy and efficiency by matching records from extensive England and Ireland databases.

Leveraged machine learning methodologies to implement an algorithm that significantly improved matching precision and minimized false positives in the data.

Collaborated closely with cross-functional teams, including data scientists, engineers, and stakeholders, to align the project with Motor Check's business requirements.

Adopted a comprehensive approach to the project lifecycle, starting from conceptualization and architecture design through to development and deployment stages.

Assessed and selected appropriate machine learning algorithms tailored to the matching challenge.

Preprocessed and cleaned data to prepare it for model training.

Trained and fine-tuned machine learning models to achieve optimal matching results.

Contributed significantly to the project's success by delivering an effective matching algorithm, resulting in improved data accuracy and operational efficiency for Motor Check.

Lead Software Engineer
Cloud Business Technologies - Mzuzu, Malawi

diseases to get insights from their data and provide recommendation on how their research fund should be allocated.

- Co-founded and established a tech company dedicated to bridging the digital divide for marginalized communities by providing AI and Machine Learning-based technological solutions.
- Developed the inaugural Cloud Store system for Cloud Business Technologies in Malawi, empowering business owners to tap into a wider market.
- Designed a software system to gather medical information from research experts for a global non-profit dedicated to primary immunodeficiency disorders.

REFEREES

- **Anthony Shafto**, Founder and Managing Partner at Whatnow Digital: anthony@whatnow.is, +48 604 934 578
- **Remy Gakwaya,** Founder and CEO at takenoLAB: d4remy@gmail.com, +1 (208) 605-1433
- **Kaponda Mulambia**, System Architect at UNDP – Malawi , and Managing Director at Umodzi Source: kmulambia@umodzisource.com, +265 998 88 95 76
- **Donald Phiri**, CEO at Cloud Business Technology, ICT and Data Science Lecturer at Mzuzu University:

06/2022 - 04/2023

- Taking a visionary approach, I architected the Cloud Stores Malawi System, carefully designing its structure and components to align with the project's objectives and future scalability requirements.
- Guided and directed the development team, leveraging my expertise to ensure the optimal implementation of architectural blueprints and coding practices that adhered to industry best standards.
- Assumed responsibility for comprehensive project documentation, capturing critical design decisions, technical specifications, and implementation intricacies.
- Undertook the task of managing the Cloud Stores Malawi System from its inception to completion, exercising a hands-on approach to ensure that the project's development, testing, and deployment phases were executed seamlessly.

Software Engineer
Umodzi Source - Lilongwe, Malawi

04/2022 - 09/2022

- Gathered and converted clients' needs into technical specifications for software development.
- Lead the design of tailored Enterprise Software solutions aligned with client objectives.
- Oversaw end-to-end software development, ensuring client-specific solutions are delivered.
- Created high-performance software that meets both technical and client requirements.

ICT Entrepreneurship Trainer
takenoLAB - Dowa, Malawi

06/2021 - 09/2021

- Conducted training for over 40 students in the field of entrepreneurship.
- Guided and supported 40% of the students in developing and realizing their business ideas, leading to successful business ventures.
- Contributed to the program's expansion through noteworthy outcomes, prompting the World Bank and Public Private Partnership Commission to extend the partnership with takenoLAB for more than 3 years.

Software Engineer
takenoLAB - Dowa, Malawi

04/2018 - 09/2021

- Held the role of a team lead for developers, overseeing the development of both internal and external applications.
- Analyzed and developed software systems, ensuring alignment with customer requirements.
- Ensured that the software systems met customer expectations and addressed their specific needs.

Information Technology Instructor
Jesuit Refugee Service - Dowa, Malawi

09/2018 - 08/2019

- Instructed refugees in coding and web application development, covering HTML, CSS, JavaScript, and Ruby on Rails.
- Contributed to a program initiated by Refugee Code Academy, partnered with Jesuit Refugee Service, with the goal of cultivating globally employable software engineers.
- Led full project lifecycles, transforming ideas into functional products for both internal and external initiatives.

phiri.d@mzuni.ac.mw,
+265 992 31 53 19
- **John Memory**, Head of
Computer Engineering
Department at University
of Livingstonia:
hodcen@unilia.ac.mw,
mbanda@unilia.ac.mw,
+265 882 11 93 72

EDUCATION

Bachelor of Science Computer Engineering
University of Livingstonia - Mzuzu
- President of Computer Engineering Association
- Coursework in Software Engineering, AI and Machine Learning,
  Data Structures and Algorithms, and Systems Design