

# Pius Dan Nyongesa

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## PROFESSIONAL SUMMARY

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A Software Engineer and aspiring technology leader with demonstrated experience in building innovative software products that streamline business operations and reduce time to market. I have a proven track record of working in and also leading high performing cross-functional teams to deliver quality software products.

## EDUCATION

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- **Jomo Kenyatta University of Science and Technology** 2015 - 2021  
*BSc. Computer Science*
- **Starehe Boys Center and School** 2011 - 2014  
*High School Diploma - Grade A*

## EXPERIENCE

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- **Microsoft** Nairobi, KE  
*Software Engineer* May 2019 - Present
  - **Copilot:** Developed Copilot an AI assistant that simplified business workflows and reduced time to generate business artifacts from several weeks to a seconds. Owned integration of the AI models with internal knowledge bases by building processing pipelines to collect and process data from various sources providing the foundational data layer used to ground the AI models.
  - **Automated Testing Infrastructure:** Developed event driven microservices that managed running of automated tests on thousands of Windows applications daily in order to detect application compatibility issues. Owned microservices to collect and report the test results.
  - **Azure Migration Tooling:** Developed event driven microservices that enabled azure users globally to determine incompatibilities of Windows applications when migrating from on-premises to Azure. Owned Automation of the Continuous Delivery and Integration pipeline of the microservices to multiple azure regions using a ring based deployment mode with automated rollbacks. Developed a self-healing mechanism that detected and resolved service failures automatically.

**Relevant Skills:** Azure, C#, Powershell, Python, Microservices, Azure Bicep, Azure DevOps, Event Driven Architecture, Artificial Intelligence, Large Language Models, MassTransit, Azure Functions, Azure Cosmos DB, Azure Service Bus, Azure Event Grid

- **Loanbee Limited** Nairobi, KE  
*Software Engineer* Jun 2018 - May 2019
  - **Loanbee Lending Platform:** Built a lending platform that allowed customers to apply for loans and get instant approval. The platform was built on a microservices architecture and was deployed on a Kubernetes cluster.
  - **Alternative credit scoring:** Deployed an alternative credit scoring model to determine loan eligibility for customers based on their mobile money transactions. The model reduced the default rates by 15%.
  - **Observability:** Built and deployed an elastic search, kibana and logstash stack monitoring system that allowed for realtime monitoring of application running across multiple Virtual machine instances.
  - **Service Resilience:** Enhanced the security and reliability of services running on Kubernetes cluster by deploying an Istio service mesh. This architecture allowed us to use mutual TLS to enhance security. The service mesh also allowed for error handling and retries in case of service failures enabling us build a fault tolerant microservices architecture.

**Relevant Skills:** Python, Kubernetes, Google Cloud, Elixir, Docker, Istio, Elastic Search, Kibana, Logstash, Microservices

- **AfrikasTalking LTD** Nairobi, KE  
*Software Developer* Apr 2017 - Jun 2018
  - **Dodore Training Platform:** Consulted for Dodore Agriculture, a startup based in Nairobi to build a SMS based platform that allowed the company to rollout educational campaigns to over 10,000 farmers on their portfolio.

- **Tuwajibike Mashinani Public Participation Portal:** Consulted for Mbaika Connect to build a public participation portal that allowed citizens to give feedback on various issues directly to the leaders using a USSD application.
- **Cash value Solutions Event Ticketing System:** Consulted for Cash Value Sulutions to build an event ticketing system that allowed event organizers to sell tickets to their events through ussd. The system also had a billing module to allow customers purchase airtime and pay utility bills.
- **Software Developer Intern:** Developed product demos to Guide developers when integrating Africa's Talking Voice, USSD, Airtime and SMS APIs.

**Relevant Skills:** Python, Flask, Django, USSD, SMS, Voice, Airtime, API Integration, Microservices

## PUBLICATIONS AND PRESENTATIONS

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- **USSD Tutorial:** Step by step Tutorial to guide learners in developing USSD applications.  
<https://github.com/piusdan/USSD-Python-Demo>
- **Kubernetes Security Publication:** Wrote a publication on how to secure Kubernetes Clusters on Cloud.  
<https://piusdan.medium.com/kubernetes-security-faf59ac121e1>
- **Speaker at GDG Fest Nairobi:** GDG is a community of google cloud experts in Africa. I presented my learnings on reliably running a Kubernetes cluster on cloud.
- **Speaker at Pycon:** Pycon is the largest conference on python held annually accross all geographic zones. I presented on using GRPC to build fast and reliable microservices.

## VOLUNTARY EXPERIENCE

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- **Founder - Silicon Blaze:** During my first and second year of campus, I founded Silicon blaze, an organization aimed making computer science education accessible to economically disadvantaged youth in Kenya. I organized a team of 20 volunteers to teach computer sceince basics to over 1000 youths across Kenyan high schools. These youths were all able to build a basic web page by the end of the course. <https://siliconblazeblog.wordpress.com>

## PROJECTS

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- **Robopal AI:** Built a WhatsApp based bot that uses LLMs to democratize access to education for over 10,000 learners accross Africa. Using both LLMs and innovative pricing model I was able to allow learners access educational materials for a fraction of the tution fees <https://robopal.co>
- **ChangaChanga:** Led a team of 5 to design and build a platform Web Application (React Js, Python + Fast API), IOS Application and Android Application (Flutter) and CRM portal (React Js) to simplify making financial transactions. The system used Visa 3D technology and was fully integrated into the core banking of a major Kenyan bank.  
[www.changachanga.co.ke](http://www.changachanga.co.ke)
- **Kapu WhatsApp Shopping Cart:** Consulted for Kapu an online retailer in Africa to build the first WhatsApp based shopping Experience in Africa using Typescript and Node Js. The WhatsApp based shoping experience led to a 10% week on week increase on the Gross Margin Value and saw new sign ups rise by 5%.[kapuafrica.com](http://kapuafrica.com)
- **USSD SDK:** Open sourced an SDK to build reliable and fast USSD applications. The project has 68 stars on github and over 60 developers continue to use the project to build USSD applications <https://github.com/piusdan/flask-ussd-flow>

## SKILLS & CERTIFICATIONS

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- **Languages:** English, Kiswahili
- **Hobbies:** Running, Golfing, Hiking