

# Julien Nyambal

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## Education

- 2019 - Present **PhD in Computer Science (Machine Learning)**, Supervisors: **Dr. Richard Klein & Prof. Turgay Celik**, *University of the Witwatersrand, Johannesburg, South Africa.*
- 2017 - 2018 **Master of Science in Computer Science (Machine Learning - Computer Vision)**, Supervisor: **Dr. Richard Klein**, *University of the Witwatersrand, Johannesburg, South Africa.*
- 2016 **Bachelor of Science (Honours) in Computer Science**, *University of the Witwatersrand, Passed with Distinction, Johannesburg, South Africa.*
- 2012 - 2014 **Bachelor of Science in Computer Science & Mathematics**, *University of Zululand, KwaDlangezwa, South Africa.*

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## Professional Experience

- Sept 2022 - Present **Senior Machine Learning Engineer**, *Capitec Bank - Business Bank, Johannesburg, South Africa.*
- **Credit Data Mart** (Sept 2022 - Present):
    - **Project Description:** For the new Capitec Business Bank, Data Warehousing exercise to have a mapping of all the components of the bank like teller, clients, overdrafts and all sorts of products., in the form of Dimensions and Facts.
    - **Responsibilities:**
      - Plan, develop and orchestrate Dimensions and Facts for some core banking operational tables,
      - Review those tables for better integration to the external systems to use, e.g: propensity model development.
  - **Overdraft Campaign** (Sept 2022 - Present):
    - **Project Description:** For the new Capitec Business Bank, assist Decision Scientists into deploying their Machine Learning Based systems to production.
    - **Responsibilities:**
      - Review codebase,
      - Advise on best practice of cloud components utilization
      - Build data and process Pipeline to automate feature creation and deployment on AWS. Built the orchestration layer from data ingestion to features delivery
  - **Transaction Categorization** (Sept 2022 - Present):
    - **Project Description:** For the new Capitec Business Bank, assist the team into building a system to dynamically categorize financial transactions performed by the clients either via EFT, Cards and another mean of moving money from one account to the other
    - **Responsibilities:**
      - Rewriting or optimizing codebase written by dedicated teams for cloud adoption,
      - Build data and process Pipeline to automate feature creation and deployment on AWS

- April 2022 **Technical & Engineering Lead, Reech (Startup), Johannesburg, South Africa.**  
 –Present
- **Project Description:** Create an awesome social media app to link people up.
  - **Responsibilities:**
    - Currently designing the overall software architecture design,
    - Hands-on working the Machine Learning components for the recommendation engine, and the different services needed to recommendations to be surfaces to the customers,
    - Responsible for accessing and hiring new team members for the backend team,
    - Drive the main technical choices for the app.
- Dec 2019 – **Machine Learning Engineer, Consultant, Entelect, Johannesburg, South Africa.**
- August 2022
- **Standard Bank: Corporate Investment Banking - FX Tips (Sept 2020 - August 2022):**
    - **Project Description:** Hinting or Recommend clients on potential Forex transactions (leads) they can make using their transactions across multiple financial systems.
    - **Responsibilities:**
      - Lead Machine Learning Engineer
      - Built from scratch and currently maintaining the Data Engineering end2end pipelines, from data ingestion to leads delivery,
      - Responsible for major decisions on the design and architecture of the solution,
      - Built Machine Learning models to use in the process, and integration in the pipeline. This involved fine-tuning and re-calibrating the model given the users feedback, investigating for better models for the inference,
      - Brought the project to be the winner in its category by bring in a revenue of over \$300000 over 6 months after launch,
      - Mentored and assisted and mid-level junior developers and guided data scientists throughout development.
  - **Standard Bank: Corporate Investment Banking - Internal Credit Market Data (April 2020 - Sept 2020):**
    - **Project Description:** Help the Risk department of the bank to have an aggregated set of financial information on daily basis using trusted financial data sources.
    - **Responsibilities:**
      - Built from scratch a Python-based Backend system to seamlessly pull financial data and summarize currency pairs and valuable information out of them, API endpoints,
      - Build REST API to control the daily pulls and internal calculations,
      - Wrote from scratch mathematical calculations from C# to Python since using Python stack
  - **Standard Bank: Personal Business Banking - Internal Incident Reporting System RMP (March 2020 - April 2020):**
    - **Project Description:** Enhance incident reporting in the banks systems using NLP and GraphDB as opposed to relational DB. It reduced human interaction and faster ticket assignment.
    - **Responsibilities:**
      - Making incident reports in the back escalating quicker using NLP,
      - Assisted in building GraphDB representation of the hierarchy in the bank,
  - **Standard Bank: Personal Business Banking - Forex Customer Analysis (Dec 2019 - Jan 2020):**
    - **Project Description:** POC to try to predict currency pair value using time series and RNN.
    - **Responsibilities:**
      - Exploring and Analyzing Forex data (time series) to draw potential pattern.
- Feb 2019 – **Part Time Lecturer, University of the Witwatersrand, Johannesburg, South Africa.**
- Jan 2021
- Introduction to Programming and Algorithms, COMS 1022A
  - Introduction to Data Structures And Algorithms, COMS 1017A
  - Computer Networks, COMS 2014A

- Apr 2018 – **Machine Learning Engineer, Consultant, Retro Rabbit**, Johannesburg, South Africa.
- Dec 2019 ○ **Nedbank Avo by Nedbank** (Apr 2019 - Nov 2019):
- **Project Description:** Customizing offering to clients based on the spending habits,
  - **Responsibilities:**
    - Performed Data Analysis and Exploration for client segmentation on credit cards transactional data on over one year,
    - Built and evaluated models for client segmentation,
    - Assisted in designing and building the PowerBI dashboard for better targeting of high spending clients in South Africa.
  - **Kalido** (April 2018 - April 2019):
  - **Project Description:** Enabling clients to hire or provide services based on skills and proximity.
  - **Responsibilities:**
    - Enhanced and supported the backend Machine Learning Architecture in place,
    - Machine Learning Model Investigation and selection for the solution,
    - Set up the AWS ECR environment to replace the current Hadoop Yarn Structure,
    - Increase clients matching with data analysis, AB testing and multi-model competitions (SageMaker was not yet available yet)
- Jun 2017 – **Teaching Assistant, University of Witwatersrand**, Johannesburg, South Africa.
- Apr 2018 ○ Marking assignments, tests, invigilations, tutoring, monitoring laboratory work
- Feb 2013 – **Teaching Assistant, University of Zululand**, KwaDlangezwa, South Africa.
- Nov 2014 ○ Marking assignments, tutoring, monitoring laboratory work

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## Spoken Languages

**English**, *Professional Level*.

**French**, *Native*.

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## Training & Certifications

- April 2021 **Microsoft Certified: Azure AI Fundamentals**, *Link to Certificate*, MS Azure.
- April 2021 **Microsoft Certified: Azure Data Fundamentals**, *Link to Certificate*, MS Azure.
- May 2020 **AWS Certified: Cloud Practitioner**, *V8YV563CMMQE13KG*, AWS.
- Sept 2020 **Microsoft Certified: Azure Fundamentals**, *Link to Certificate*, MS Azure.
- May 2020 **Introduction to Calculus**, *Link to Certificate*, Coursera.
- June 2017 **High Performance Computing Winter School at Stellenbosch University: C & Python programming for cluster computing.**, *Hosted by the CHPC, CSIR*.

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## Talks

- March 2021 **Why GPUs for Machine Learning?**, *Internal Entelect Conference*, Johannesburg - South Africa.
- February 2020 **Deep Learning and its application: Johannesburg // AI - Machine Learning - Chatbots**, *Johannesburg // AI - Machine Learning - Chatbots*, Johannesburg - South Africa.
- February 2020 **Machine Learning (or Data Science) in Production: Machine Learning (or Data Science) in Production - Julien Nyambal**, *Meetups - Intuitive Intelligence.AI*, Johannesburg - South Africa.
- May 2019 **Deep Learning and its application: Indaba X Ethiopia 2019**, *Deep learning IndabaX Ethiopia*, Wolaita Sodo University - Ethiopia.
- April 2019 **Machine Learning in Production: Indaba X Cameroon 2019**, *Deep learning IndabaX Cameroon*, L'Institut Français du Cameroun - Cameroon.
- Sept 2018 **Computer vision in your daily life: Retro Rabbit Conference**, *Retro Rabbit Conference*, Retro Rabbit Pretoria - South Africa.
- April 2018 **Introduction to Machine Learning and Deep Learning: Indaba X Cameroon 2018**, *Deep learning IndabaX Centrafrique*, Ecole Nationale Supérieure Polytechnique de Yaoundé - Cameroon.

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## Academic Activities

- Dec. 2022 **Reviewer Black In AI**, *NEURIPS Workshop*, New Orleans, United States.
- Nov. 2021 **Reviewer Black In AI**, *NEURIPS Workshop*, Virtual.
- May 2021 **Reviewer Black In AI Research Grant**, *NEURIPS Workshop*.
- October 2020 **Reviewer Black In AI**, *NEURIPS Workshop*, Virtual.
- October 2019 **Reviewer Black In AI**, *NEURIPS Workshop*, Vancouver, Canada.
- August 2019 **Tutor**, *Deep Learning Indaba*, Kenya 2019.
- April 2019 **Co-Organizer Deep learning IndabaX Cameroon**, *French Institute - Yaounde*, Cameroon.
- April 2018 **Co-Organizer Deep learning IndabaX Centrafrique**, *Ecole Nationale Supérieure Polytechnique de Yaoundé - Cameroon*.

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## Achievements I am Proud of

- 2021 **Standard Bank Excellence Awards Nominations: FX Tips Project Winner**, *FX Tips*, the project I lead on the Technical side was nominated and won the Standard Bank Excellence Award of the year with the highest ROI, user adoption and best solution., Standard Bank, Corporate Investment Banking, South Africa.
- 2017 **Inter-Bursary Support Programme Scholarship**, *Department of Science and Technology of South Africa - Council for Scientific and Industrial Research Merit Bursary*, DST - CSIR for my Master's at The University of the Witwatersrand., South Africa.
- 2017 **Won Machine Learning: A probabilistic Perspective by Kevin Murphy - 3rd Place**, *Poster presentation awarded (Automated Parking Space Detection) for innovative use of deep learning techniques.*, Deep Learning Indaba, South Africa.
- 2016 **Inter-Bursary Support Programme Scholarship**, *Department of Science and Technology of South Africa - Council for Scientific and Industrial Research Merit Bursary*, DST - CSIR for my Honours (4<sup>th</sup> year) at The University of the Witwatersrand., South Africa.
- 2016 **Best poster presentation under the Most Commercially Viable Project category when presenting my Honours (4<sup>th</sup> year) projects to companies for external assessment.**, *Most Commercially Viable Project - Computer Science*, ABSA - University of the Witwatersrand, South Africa.
- 2014 **Best 3rd year Computer Science student in Faculty of Science**, *Highest marks amongst of final year students on the department of Computer Science*, University of Zululand, South Africa.
- 2013 **2nd Best Software Engineering group Project Leader (SmartDrive)**, *Built and lead the second best working native android for my 2nd year group project. Receive an award of best project leader.*, University of Zululand, South Africa.
- 2012 **Merit Award Scholarship (Rector's fund)**, *Best achiever undergraduate student with annual average of above 80% in all modules*, University of Zululand, University of Zululand. South Africa

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## Extracurricular Activity

- 2012 - 2014 **Playing tennis for the University of Zululand Team (USSA Tournaments 2012 & 2013)**, *University of Zululand*, South Africa.
- 2014 **Elected Chairperson Computer Science Society**, *University of Zululand*, South Africa.
- 2014 **Elected Vice-Chairperson International Student Society**, *University of Zululand*, South Africa.
- 2016 - 2018 **Wits Tennis Player**, *University of the Witwatersrand*, South Africa.