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Julien Nyambal

Education

2017 - 2018 **PhD in Computer Science (Machine Learning), Supervisor: Dr. Richard Klein**, *University of the Witwatersrand, Johannesburg, South Africa.*

2019 - Present **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.*

Experience

04/2018 – Present **Software Developer**, *Retro Rabbit*, Johannesburg, South Africa.
- Joined a team developing a Machine Learning algorithm for an android app. My role is to use make the backend more efficient using various technologies like Docker.

06/2017 – 04/2018 **Teaching Assistant**, *University of Witwatersrand*, Johannesburg, South Africa.
- Marking assignments, tests, invigilations, tutoring, monitoring laboratory work

02/2013 – 11/2014 **Teaching Assistant**, *University of Zululand*, Kwadlangezwa, South Africa.
- Marking assignments, tutoring, monitoring laboratory work

Skills

Languages Python(fluent), Golang (intermediate), Octave/Matlab, Java, Scala(basic), C++(basic), LaTeX, Shell/Bash (intermediate)

Frameworks Caffe, Keras ,Tensorflow, Nvidia DiGITS, Git, Android Studio

OS Ubuntu Linux(Prefered), Windows (intermediate), MacOS(basic)

Others Docker, AWS(ECS, EC2), Kubernetes(basic), Hadoop(basic), Spark(basic)

Projects

SmartDrive, *Android SDK, Java.*
SmartDrive has been designed to monitor the usage of the mobile phone while driving a car. SmartDrive blocks incoming SMSs and calls whilst the user is driving. SmartDrive has been built for Android devices.

Automated Parking Space Detection, *Python, Caffe (GPU), nvidia DiGits.*
Developed an Automated Parking Space Detection using some Computer Vision and Machine Learning techniques. I have used opencv with Python to predict the occupancy of some parking spot given a parking spot. I trained my dataset using Nvidia Digits under Caffe.

Automated Parking Space Detection, *Python, Keras, Octave/Matlab, Scikit-learn.*
Improving the Honours project for automatic detection and comparison between Support Vector Machines and Convolutional Neural Networks.

Awards

Rector's fund — **Merit Award**, *2012*.
Best achiever undergraduate student with annual average of above 80% in all modules, University of Zululand

Project Award — **2nd Best Software Engineering group Project Leader (SmartDrive)**, *2013*.
Created and developed the second best working native android for my 2nd year group project. Receive an award of best project leader, University of Zululand

Faculty Award — **Best 3rd year Computer Science student in Faculty of Science**, *2014*.
University of Zululand

DST-CSIR — **Inter-bursary Support Programme Scholarship**, *2016*.

ABSA — **Most Commercially Viable Project - Computer Science**, *2016*.
Best poster presentation under the Most Commercially Viable Project category when presenting Honours projects to companies for external assessment.
University of the Witwatersrand, Johannesburg

DST–CSIR — **Inter-bursary Support Programme Scholarship**, *2017*.

Deep Learning Indaba 2017 — **Won 'Machine Learning: A probabilistic Perspective by Kevin Murphy'**, *September 2017*.
Poster presentation awarded (Automated Parking Space Detection) for innovative use of deep learning techniques.
University of the Witwatersrand, Johannesburg

8th PG X-Faculties Symposium — **Certificate of participation:**, *October 2017*.
Flash talk and poster presentation about my Master's project, **Automated Parking Space Detection**.
University of the Witwatersrand, Johannesburg

DST–CSIR — **Inter-bursary Support Programme Scholarship**, *2018*.

Publications

2017

Nyambal, J. and Klein, R. (2017). Automated parking space detection using convolutional neural networks. In *2017 Pattern Recognition Association of South Africa and Robotics and Mechatronics (PRASA-RobMech)*, pages 1–6. IEEE.

Training

2017 — **High Performance Computing Winter School at Stellenbosch University: C & Python programming for cluster computing.**, *Hosted by the CHPC*, CSIR.

Talks

4 April 2018 — **Introduction to Machine Learning and Deep Learning**, *Deep learning IndabaX Centrafrique*, Ecole Nationale Supérieure Polytechnique de Yaoundé - Cameroon.

7 September 2018 — **Computer vision in your daily life**, *Retro Rabbit Conference*, Retro Rabbit Pretoria.

Extracurricular Activity

2012 - 2014 — **Playing tennis for the University of Zululand Team (USSA 2012 - USSA 2013)**, *University of Zululand.*

2014 — **Elected Chairperson Computer Science Society**, *University of Zululand.*

2014 — **Elected Vice-Chairperson International Student Society**, *University of Zululand.*

2016-Present — **Wits Tennis player**, *University of the Witwatersrand.*

4 - 6 April 2018 — **Co-Organizer Deep learning IndabaX Centrafrique**, *Ecole Nationale Supérieure Polytechnique de Yaoundé - Cameroon.*

References

1- **Dr. Richard Klein**, *Lecturer*.
Institution: University of the Witwatersrand
Unit: School of Computer Science and Applied Mathematics
E-mail: Richard.Klein@wits.ac.za

2- **Dr. Pragasen Mudali**, *Senior Lecturer*.
Institution: University of Zululand
Unit: Department of Computer Science
E-mail: Mudalip@unizulu.ac.za

3- **Prof. Turgay Celik**, *Professor*.
Institution: University of the Witwatersrand
Unit: School of Computer Science and Applied Mathematics
E-mail: Turgay.Celik@wits.ac.za