Mohamed El. **Kuku**

SOFTWARE DEVELOPER · DATA SCIENTIST

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Experience

auxigon   *Khartoum, Sudan*

SOFTWARE DEVELOPER, DATA SCIENTIST   *1/10/2017 - Present*

- Building a custom version for CSPro for auxigon. I was assigned to modify existing CSPro application to be used for Sudan's new Census, 2018. We modified it to be used with a GPS to compute the position. It also has backend server, to easily sycn the results between the questionnaire and a master center for any further data analysis and backup.
- Crop Irrigation. I also worked on building a platform for vegetation analysis. It currently only account for NDVI index, but it can be easily extended. We hope this application will help farmers to easily monitor their farms, by just looking at the status of their selected ones. NDVI is used to determine the density of green on a patch of land. That can infer whether a vegetation is healthy or not.

gndi   *Khartoum, Sudan*

SOFTWARE DEVELOPER   *1/3/2017-Present*

- Director for 'Students Internships Program'. I launched this program to help bridge the gap between academia and industry. In my country, it is quite very hard to find job opportunities: Industry doesn't trust our higher education institutions, and academic institutions don't know what the industry needs. In the first launch of this program, I hired five of my previous students. I'm working with them on building various applications, ranging from geospatial applications, data analysis and visualization tools, to pure academic research topics (a survey paper on the history of Geodesy).
- gndi e-learning platform. I worked on building the backend for an online learning platform. The frontend part is currently handled by our interns.
- I also maintain the gndi website.

University of Khartoum   *Khartoum, Sudan*

TEACHING ASSISTANT   *25/12/2016 - Present*

- Physical Geodesy, fifth year students.
- Computational Statistics
- Advanced Geodetic Networks Adjustment, fifth year students, free course.
- Introduction to Geomatics Engineering, second year students.
- In addition to that, I also worked on other projects. I'm currently working on building an online repository for our department work. Which includes, previous years graduation projects, any related software to our department (should be maintend by one of the department faculty), and most importantly gis dataset. All of our work will be on public domain, anyone can easily access it, and reuse it.

Education

University of Khartoum   *Khartoum, Sudan*

BSc (HONORS) IN SURVEYING ENGINEERING   *October 2011 - December 2016*

Honors & Awards

Dec. 2016 **Best Graduation Project Award**, University of Khartoum   *Khartoum, Sudan*

Sep. 2016 **Mashrouy IV top 12,** Mashrouy Organization and British Council   *Khatoum, Sudan*

Workshops & Conferences

GIS Conference   *Khartoum, Sudan*

ORGANIZER OF GIS CONFERENCE   *Nov. 2017*

I, with my employees at gndi, organized the first GIS and Geoinformatics Applications Conference in Sudan. The theme for this year conference is 'Bridge the Gap between Industry and Research in GIS.'

Workshop in Geomatics Engineering, WIGE   *Khartoum, Sudan*

SPEAKER AND ORGANIZER OF WORKSHOP IN GEOMATICS ENGINEERING   *May, 2017*

I organized this workshop to highlight recent applications of Geomatics Engineering in both Sudan and other regions. Invited speakers were from our department and from industry. I also gave a tutorial on the use of Python in Geomatics Engineering.

Presentations

Presentation for our department faculty *Khartoum, Sudan*

Using Python for Teaching and Doing Research *November, 2017*

- Using Python in teaching.
- Using 'nbgrader', to help you auto-grade your assignments.
- Scientific Python Stack. A small intro to numpy, scipy, matplotlib.
- GitHub pages very simple tool to make you course contents accessible to your students, and even larger audience.

A Presentation for fifth year students *Khartoum, Sudan*

How to Select Your Graduation Project *January, 2017*

- Selected previous years graduates to highlight their works and give advises to current finalists students on their graduation projects.
- Highlighted current state of the art in Geodesy field, in terms of research and it's application in Sudan. I also talked about the economical advantages of applying geodesy in Sudan.
- Invited leading engineers to show the students what the industry needs, so that –the students–can choose graduation projects that can help them land a job fast.