Joreen Arigye

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RESEARCH INTERESTS

Engineering and Computing Education, Education Technology and Innovation, Higher Education

EDUCATION

Purdue University   West Lafayette, IN, USA
PhD in Engineering Education, Advisor: Prof. Alejandra J. Magana   Aug. 2021 – Present

Carnegie Mellon University   Kigali, Rwanda
Master of Science, Information Technology   Aug. 2017 – Dec 2018

Makerere University   Kampala, Uganda
Bachelor of Science in Software Engineering   Aug. 2010 – Jun 2014

RESEARCH PUBLICATIONS

- **Joreen Arigye**; Joseph A. Lyon, Alejandra Magana, Elsje Pienaar. The Reflective Modeling Practitioner: Promoting reflective practices through computational modeling assignments. In *Educational Technology Research and Development* : Under review

- **Joreen Arigye**; Alejandra Magana, Joseph A. Lyon, and Elsje Pienaar. Biomedical and Agricultural Engineering Undergraduate Students Programming Self-Beliefs and Changes Resulting from Computational Pedagogy. In *American Society of Engineering Education (ASEE) Annual Conference and Exposition* : Submitted

- Yashin Brijmohan; Moses Olayemi, Viyon Dansu, Ifeoluwa Babalola, Yasir Gamieldien, Ijeoma Ezika, **Joreen Arigye**, Uchenna Asogwa, Collins N Vaye. African Diaspora Engineering Education Student Experiences at US Universities: A Collaborative Autoethnographic Study. In *World Engineering Education Forum & The Global Engineering Deans Council (WEEF/GEDC) with the African Engineering Education Association* Cape Town, SA. Nov 2022 : Peer Reviewed

WORK EXPERIENCE

Graduate Research Assistant   West Lafayette, IN, USA
Purdue University   Aug 21 - Present

- **Computational modeling** : Collaborate on research projects: currently working on model based learning, specifically computational modeling in disciplinary engineering classes

Data Analyst   Kampala, Uganda
Engie Energy Access   Feb 2019 - Jul 2021

- **Data engineering**: Created and maintained routine scripts in the analytics database to meet analytics and reporting needs across the business.

- **Data analysis**: Met requests for analysis,visualizations and insights from different departmental stakeholders

- **Technical training**: Conducted training of team members on data tools/skills to grow data analysis capacity.

- **Experimentation**: Gathered requirements, designed, and collected data for A/B testing and experiments

- **Machine learning**: Maintained machine learning models to inform business interventions

- **Tech Stack**: Python, SQL, AWS, Redshift, Git, PySpark, JIRA, Jupyter Notebook, Airflow

Data Intern   Kampala, Uganda
Engie Energy Access   Jun 2018 - Aug 2018

- **Analysis and visualization**: Performed experimentation and analytics for solar loan repayment interventions

- **Tech Stack**: Python, SQL, JIRA

- **Business Process Analyst** — Kampala, Uganda
  UMEME — *Apr 17 - Aug 2017*
  - **Software product management**: Co-ordinated the implementation of a company-wide off the shelf HR system for over 1000 employees.
  - **Business analysis management**: Supported in the identification, design, and execution of business process re-engineering to drive efficiency

- **Software Developer** — Kampala, Uganda
  InfoTronics Business Systems — *Oct 16 - Jun 2017*
  - **Software coding**: Developed 3 information systems that capture data and provide reporting dashboards.
  - **Requirements analysis**: Conducted requirements elicitation and system testing
  - **Data management**: Performed data input, cleaning, and analysis as per client requirements
  - **Training**: Trained clients on how to use systems
  - **Tech Stack**: C#, SQL

- **Supply Chain Management Apprentice** — Kampala, Uganda
  Medical Access Uganda Limited — *Dec 14 - Sep 2016*
  - **Software product management**: Coordinated implementation and testing company software with contractors.
  - **Data analysis**: Analysed data for monitoring and evaluation activities
  - **Business process analysis**: Managed the business process review for ISO certification
  - **Supply chain**: Supported in procurement, warehousing and distribution of ARV's in Uganda
  - **I.T. support**: Run applications and network help desk and provide technology support including installation, maintenance and troubleshooting
  - **Tech Stack**: MySQL, Advanced Excel, Microsoft Visio

- **Software Engineering Intern** — Kampala, Uganda
  Medical Access Uganda Limited — *Jun 2013 - Aug 2013*
  - **Software coding**: Developed a Windows web service as part of the company's integration process
  - **Tech Stack**: ASP.Net

Teaching Experience

- **Python Instructor** — West Lafayette, IN, USA
  Gifted Education Research and Resource Institute, Purdue University — *Jul 22 - Jul 2022*
  - **Introduction to Python**: to 9 -12th grade students at a residential summer camp

- **Node.js Instructor** — Kampala, Uganda
  Refactory, Clarke International University — *Nov 19 - Jul 2021*
  - **Server-side development**: with NodeJS, Pug, MongoDB, Git, TDD.

- **Data Analysis Instructor** — Kampala, Uganda
  Upskill, The Innovation Village — *Mar 20 - Mar 2020*
  - **Data analysis**: online sessions on the basic steps of a data science project.

- **Guest Instructor** — Cape Town, South Africa
  LaunchLab, Stellenbosch University Techpreneurship Centre — *Jul 21 - Jul 2021*
  - **Introduction to Git and GitHub**: at the Data Bootcamp

- **Graduate Teaching Assistant** — Kigali, Rwanda
  Carnegie Mellon University — *Nov 19 - Jul 2021*
  - **Java For Smartphone Development**: Collaborated on creating assignments, grading student, and advising/mentoring students.
  - **Tech Stack**: Java, Android, OOP

SERVICE · TALKS · AWARDS

- **Speaker**: *Women in Tech CMU Africa,* Research or professional path (11/2021)
- **Speaker**: *DataFest Africa,* Getting the workforce ready for Data Science opportunities (04/2021)
- **Speaker**: *ENGIE Energy Access,* IWD talk on inspiring women to join tech industry (03/2020)
- **Speaker**: *Women in Machine Learning and Data Science,* Data Science to inform business in the Energy (01/2020)
- **Speaker**: *Pyladies Kampala,* About Data Science in industry (11/2020)
- **Speaker**: *Coding Girls,* How to be deliberate about gaining technical skills (08/2019)
- **Speaker**: *IBM Research Africa,* Data to develop sustainable energy and financial inclusion in Africa (05/2019)
- **Speaker**: *Pulse Lab, Data Science in Africa* Data Science for Health (06/2016)
- **Judge**: *Educating The Children East Africa,* Cohort 3 Final presentations for the code queens program (12/2020)
- **Judge**: *Educating The Children East Africa,* Cohort 2 Final presentations for the code queens program (09/2019)
- **Panelist**: *African Women In Tech,* On resources, skills, challenges regarding data analytics (02/2020)
- **Panelist**: *Chinese embassy Pretoria,* Africa and China relations in Education and Leadership (02/2020)
- **Participant**: *Mandela Institute for Development Studies,* Leadership fundamental skills development (06/2020)
- **Participant**: *Mandela Institute for Development Studies,* Inaugural leadership development programme (08/2019)
- **Service**: *Vice President Membership, Techy Talkers Toastmasters CMU Africa* Coordinating membership (2017-2018)
- **Voluteer**: *Conservation Effort for Community Development,* Advocacy, youth empowerment and environmental conservation(10/09 - 07/2010)
- **Voluteer**: *Kakukuru Primary School, Nyakayojo* Teaching maths and science (2009-2010)
- **Award**: 2nd place - Facebook CMU-Africa hackathon (04/2018)
- **Award**: Mandela Institute for Development Studies Scholarship (08/2017)

TECHNICAL SKILLS

- **Programming:** Python, NodeJS, C#, Java, ASP.Net, JavaScript, Android, MySQL, SqlServer, MongoDB, SQLite, NEO-4J, Matlab, Python, Cypher, PostgreSQL, , HTML, CSS, LaTeX

- **Applications:** Windows CLI, Linux, Vi/Vim, Airflow, Git, Jupyter Notebooks and Google Colab, SPSS, JIRA, Postman

- **Languages:** English, Swahili, Runyankole, abit of French