

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 Gamiieldien, 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

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

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

- **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)
- **Volunteer:** *Conservation Effort for Community Development*, Advocacy, youth empowerment and environmental conservation(10/09 - 07/2010)
- **Volunteer:** *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, L^AT_EX
- **Applications:** Windows CLI, Linux, Vi/Vim, Airflow, Git, Jupyter Notebooks and Google Colab, SPSS, JIRA, Postman
- **Languages:** English, Swahili, Runyankole, abit of French