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*[*Under review*].

- 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*].

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 Boot camp.

Graduate Teaching Assistant   Kigali, Rwanda
Carnegie Mellon University   *Aug 18 - Dec 2018*

- **Design Patterns for Smartphone Development**: Collaborated on grading students, organising recitations, and advising/mentoring students.

- **Tech Stack**: Java, Android, OOP, Firebase

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,visualisations 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 process analysis** : 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 develop business reports.
  - **Requirements analysis**: Conducted requirements elicitation and unit, system and integration 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 to health centres in Uganda.
  - **I.T. support**: Ran help desk and provided I.T support e.g. 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

Service · Talks · Awards

- **Speaker**

  Women in Tech CMU Africa, Research or professional path (11/2021)

  DataFest Africa, Getting the workforce ready for Data Science opportunities (04/2021)

  ENGIE Energy Access, IWD talk on inspiring women to join tech industry (03/2020)

  Women in ML and Data Science, Data Science to inform business in the Energy (01/2020)

  Pyladies Kampala, About Data Science in industry (11/2020)

  Coding Girls, How to be deliberate about gaining technical skills (08/2019)

  IBM Research Africa, Data to develop sustainable energy and financial inclusion in Africa (05/2019)

- **Judge**

  Educating The Children Kampala, Cohort 3 Final presentations for the code queens program (12/2020)

  Educating The Children Kampala, 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)

  Chinese Embassy Pretoria, Africa and China relations in Education and Leadership (02/2020)

- **Leadership Training**

  Mandela Institute for Development Studies, Leadership fundamental skills development (06/2020)

  Mandela Institute for Development Studies, Inaugural leadership development programme (08/2019)

- **Service**

  Vice President Membership, Techy Talkers Toastmasters CMU Africa (2017/2018)

- **Voluteer**

  Anj Data Management Solutions Ltd, Technical Advisor and Co-founder (2021/2022)

  Verve couture Kampala, Clothing retail and store management (2016)

  Kakukuru Primary School Nyakayojo, Teaching Maths and Science at my home village school (2009)

  Conservation Effort for Community Development, Youth advocacy & environment conservation (2009)

- **Awards**

  2nd place - Facebook CMU-Africa hackathon (04/2018)

  Mandela Institute for Development Studies Scholarship (08/2017)

Technical Skills

- **Programming**

  Python, NodeJS, C#, Java, ASP.Net, JavaScript, Android, Matlab, HTML, CSS, Pug, LaTeX, R
  MySQL, SqlServer, MongoDB, SQLite, NEO-4J, Cypher, PostgreSQL, SPSS, Amazon Redshift

- **Applications**

  Windows CLI, Linux, Vi/Vim, Airflow, Git, Jupyter Notebooks, Google Colab, JIRA, Postman
  Google Classroom

- **Languages**

  Proficient: English, Runyankore &Luganda **Basic**: Swahili & French