

GITHINJI (Pauline) Bilha

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EDUCATION

PhD Graduate Student

Tsinghua-Berkeley Shenzhen Institute (TBSI), Tsinghua University, China 2020–Current

- Data Science for precision medicine and public health; explainable models for imaging or omics data

MITx MicroMaster in Statistics & Data Science

MIT 1 year program on Edx with credits to graduate programs 2018–2019

- Statistics, machine learning, deep learning, social sciences data analysis

MBA

Strathmore University, Kenya and international module with IESE business school, Spain GPA 3.54 2012–2015

- Clustering methods for smallholder market segmentation

B.Sc. Computer Science

University of Nairobi, Kenya GPA 4.00 2002–2006

- Mobile systems and machine learning for natural language

EXPERIENCE

AI for health diagnostics hub - Program Manager

Living Goods Kenya, USA Nov 2017–Jan 2019

Setup a new multi-stakeholder lab, 4 successful pilots and several transfer of learning to main program

- Designed and oversaw the development and field trial of mobile-based risk prediction solutions for maternal and child health.
- Setup and rolled out experiment and program monitoring metrics and dashboards.
- Managed the team and coordinated various stakeholders from industry, academia and public sector at various design and trial stages
- Formulated and socialized an organization wide data and analytics strategy for local and global integration

Operations research for growth - Experimentation Associate

One Acre Fund Kenya Jul 2015–Sep 2017

Transferred several models and study sub-components to the main program including pricing strategy model, loan liability strategy, SMS marketing and ad hoc operations monitoring support tools

- Designed, operationalized, analyzed and reported on quasi-experiments and RCTs
- Used statistical models and clustering methods for decision support. Reported to steering committee
- Designed and developed transition packages for successful components and monitoring tools for main operations
- Managed team and department goals and processes

Client centric data & impact management - ICT4Ag Advisory

Root Capital Kenya, USA Oct 2012–May 2015

Integrated a novel assessment model in a portfolio of 17 rural SMEs in East and West Africa. Transferred model components to global advisory function and scaled model to Latin America.

- Co-designed and operationalized a mobile client-centric approach to integrate data collection methods in SME operations for seamless, transparent and real-time value chain impact assessment
- Transferred learning from Africa test-bed to Latin America

- Managed stakeholders including implementing partners, ICT third party providers and SME leadership

Innovating for emerging markets - Research Engineer

Kenya, China

Nokia Research Center

Sep 2008–Aug 2012

Delivered award winning innovations and scaled pilots so as to transfer innovations for market adoption in Sub-Saharan Africa, China and India

- Managed innovation and software development processes for local lab and in concert with other labs, third party providers and academia
- Designed and developed algorithms for recommender systems, social networks, peer-to-peer content networks, mobile payment, digital content management
- Designed and developed embedded learning data components for prototypes and pilots
- Contributed to several patents and publications

Software Engineer

Kenya

Various

2006–2008

- Innovation director, Net Points Ltd, Aug 2012 - Aug 2013
- Systems & support engineer, Mobile Planet Ltd, Feb 2007 - Aug 2008
- Mobile software developer, Edgenet Ltd, Jul 2006 - Jan 2007

TEACHING

- **Data Science Learning Group** while at Living Goods 2018-2019
Setup the group, delivered training on using Python for data analysis and machine learning
- **Statistics and R Learning Group** while at One Acre Fund 2017-2018
Co-pioneered the group, delivered training on using statistical models and R for operations and market research.
- **Scale Innovations Department Learning** while at One Acre Fund 2016-2018
Defined learning objectives for junior staff in the department, delivered training on various topics including statistics, presentation and communication.
- **Research Liaison** Nokia Research Center - University of Nairobi Innovation Lab 2009-2012
Delivered seminar/workshop presentations, co-designed with the Uni leads, mentored students, reviewed code

PROJECTS

- **Covid19 Chatbot** (Python, Flask, NLP, 2020)
Retrieval-based document processing.
- **Image Processing** (Python, Medical Imaging, 2019)
Notes and code snippets on image processing for microscopy

SKILLS

- **Finance & Operations Research:** Pricing modeling, Market segmentation, Micro-credit liability modeling, Time series analysis, Geospatial data
- **Bio-informatics:** Image analysis, FASTA sequence analysis,
- **M. Learning:** Statistical learning, Deep learning - Text/NLP and image data. Using PyTorch, TensorFlow and Keras, NLTK, OpenCV, PyGeometric
- **Programming:** Python, R, Java, PowerBI/Excel, Superset, DHIS2
- **Tools/Techs:** LaTeX, Git, SQL, ImageJ/Fiji

WORKS

Publications

P. B. W. Githinji, “Farmer factors for targeting in the certified maize seed market of Western and Coastal Kenya”, en, Thesis, Strathmore University, 2015.

P. W. Wagacha, G. De Pauw, and P. W. Githinji, “A grapheme-based approach for accent restoration in Gikuyu”, en, Working Paper, Feb. 2013.

B. G. Omwenga and P. W. Githinji, “Buzzenger: Asynchronous (Time-Sliced) Missed Call Duration Messaging”, en, 2012.

J. Impio, L. Macharia, M. Masita-Mwangi, M. Sitati, and P. Githinji, “Need for richer features in addition to affordability in entry mobile devices”, eng, 2009.

J. Impio, M. Masita-Mwangi, L. Macharia, P. Githinji, and M. Sitati, “Exploiting Mobile Technology in the African Urban Low-Income Informal Music Industry”, eng, pp. 15–23, 2008.

P. W. Wagacha, G. De Pauw, and P. W. Githinji, “A grapheme-based approach for accent restoration in gikuyu”, eng, 2006.

Patents

“US 20140359143A1 - Method and Apparatus for Providing Shared Connectivity — RPX Insight”, Aug. 2014.

“US 20130268582A1 - Method And Apparatus for Distributing Content Among Multiple Devices While In An Offline Mode — RPX Insight”, Apr. 2013.

“US 20130297698A1 - Method and Apparatus for Utilizing Context and Profile Information in Content Searching and Recommendation — RPX Insight”, May 2013.

“US 10,200,363 B2 - Method and apparatus for providing identification based on a multimedia signature — RPX Insight”, Oct. 2011.