Abdallah Bashir

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EDUCATION

Saarland University
Saarbrucken, DE

Master of Science in Computer Science

University Of Khartoum
Khartoum, SD

Bachelor of Science in Electrical And Electronics Engineering, Minor in Software Engineering

EXPERIENCE

Machine Learning Engineer
Aug 2022 – Now

Goldman Sachs
London, UK

- Research and implement novel machine learning and deep learning algorithms and models.
- Specialize in NLP modeling, utilizing LLM for text classification, named entity recognition, question answering, semantic parsing, and uncertainty modeling in low-resource domains.
- Deploy machine learning models to production while adhering to strict constraints around model size, training, and runtime latency.
- Design and maintain deployment pipelines, including continuous integration and delivery, version control, and monitoring.
- Balance model accuracy and efficiency against business and operational requirements.
- Possess technical expertise in NLP modeling, project management skills, and a deep understanding of business and operational constraints.

Applied Scientist Intern
Apr 2022 – Jul 2022

Amazon
Seattle, USA

- Using Transformers based models, Implemented an end-to-end unsupervised framework to identify sensitive trending topics in Alexa traffic.
- Achievements - the framework will increase the robustness of online sensitive detection models in Alexa by refining the quality of labeling data.

Research Intern
Jan 2022 – Mar 2022

Allen Institute for Artificial Intelligence
Seattle, USA

- Conduct research in Natural Language Proceeding Data Augmentation using Language models using LSTMs and Transformers
- Implemented pipelines that leverage models like Albert and BART to extrapolate datasets with strucured entites.

Machine Learning Intern
Apr 2021 – Aug 2021

Goldman Sachs
Frankfurt, DE

- Curate, parse, preprocess data related to git projects in the organization.
- Implementing Deep learning models with Attention to identify high risk changes in Git Software products.
- Achievements - Implemented a Machine Learning based tool to help code reviewers to detect high risk changes in software products

Research Assistant
Nov 2019 – Mar 2021

Max Planck Institute For Informatics
Saarbrucken, DE

- Conducting research on integrating common sense in neural language models.
  * Implementing novel methods to integrate common sense knowledge to language models.
  * Implemented an API to parse and preprocess JSON text data for modeling.
  * Built web scraper to scrape medical scientific abstracts.
  * Applied NLP state-of-the-art techniques (tokenizers, models, transfer learning) on medical domains using CNN, LSTMs and Transformers.
- Achievements - Implemented models to fine-tune language Models like BERT and Roberta on Named entity recognition and text classification tasks with +90% accuracy.

Software Engineer, Co-Founder
Sep 2017 – Oct 2018

EchoNine IT Solutions Startup
Khartoum, SD

- Gathered and defined customer requirements to develop clear specifications for creating well-organized project plans.
- Designed, built, and monitored web and mobile applications for continuous improvement
- Achievements - building a product in cooperation with Zain Sudan, the top telecommunication company in the country.

PROJECTS

Healthy Diet for COVID-19 | *Machine Learning, Python,R, Git, Data Visualization*   April 2020 – Jul 2020
- ∗ Using Machine Learning, the project aims to analyze the food consumption from countries all over the world to see whether there's a relationship between given country food habits and their recovery rate.
- ∗ Preprocessed the data into shape for modeling.
- ∗ Implemented three machine learning models and benchmarked the results to report the best one.
- ∗ Built figures using visualization tools to explain the assumptions we made about the data.
- ∗ Managed a team of four to deliver the final project.

Music Synthesizer | *Python, Pytorch, Language Models, Streamlit, Git*   Jan 2020 – May 2020
- ∗ Using Deep Learning, we try to generate pop and classic music by converting music notes to text and train neural language models
- ∗ Built an API to convert music MIDI files into tokenized text
- ∗ Implemented Deep Learning models to be trained on the music notes text
- ∗ Evaluated the generated music by getting insights from experts and using music theory tests.
- ∗ Helped in implementing a demo for the project using Streamlit

WhatsApp Chatbot | *Python, Flask, Deep Learning, Transformers, Git*   Mar 2020 – Apr 2020
- ∗ Designed and Built an API to integrate a pre-trained model as a chatbot integrated in Whatsapp
  - · The API links Twilio API for Whatsapp together with Flask web application framework to handle sending and receiving messages to WhatsApp.
  - · The flask wep app is designed to link Huggingface implementation of DialoGPT "large-scale pretrained dialogue response generation model for multiturn conversations." with the Twilio API

PUBLICATIONS

Venues | *Findings of EMNLP 2020*   Sep 2020
- ∗ W. Nekoto et al., "Participatory Research for Low-resourced Machine Translation: A Case Study in African Languages," arXiv:2010.02353 [cs], Oct. 2020, Accessed: Oct. 15, 2020. [Online]. Available: http://arxiv.org/abs/2010.02353.

Venues | *ICLR'20 AfricaNLP workshop*   Mar 2020
- ∗ A. M. Bashir, A. Hassan, B. Rosman, D. Duma, and M. Ahmed. Implementation of A Neural Natural Language Understanding Component for Arabic Dialogue Systems. Procedia Computer Science, 142:222–229, Jan. 2018

Venues | *ACLing'18, NeurIPS'18 Black in AI workshop*   Nov 2018
- ∗ I. Orife et al., "Masakhane – Machine Translation For Africa," arXiv:2003.11529 [cs], Mar. 2020, Accessed: Mar. 29, 2020. [Online]. Available: http://arxiv.org/abs/2003.11529.

AWARDS AND ACCOMPLISHMENTS

- ∗ **Wikimedia** *Co-winner of the Research Award of the Year* | Apr 2021
- ∗ **ACLing** *Awarded Outstanding Paper Award* | Nov 2018
- ∗ **University of Khartoum** *Awarded Scientific Innovation Award for BSc Thesis.* | Oct 2018
- ∗ **Deep Learning Indaba** *Awarded Poster Award.* | Sep 2018
- ∗ **IndabaX Sudan** *Co-organized and led the team of IndabaX Sudan* | Apr 2018
- ∗ **TEDx** *Organized and led the team of TEDxYouth@NileStreet that was reported by the press to be the most engaging event of the year* | Oct 2016

SKILLS

Machine Learning, Deep Learning, Natural Language Processing, Dialogue Systems, Machine Translation, Natural Language Understanding, Computer Vision, Python, R, Swift, C/C++, SQL, Assembly, HTML/CSS, Java, Pytorch, Tensorflow and Keras, Scikit-learn, hugging face, Fast.ai, Django, Docker, Linux, Git, Flask,Streamlit,Metaflow, AWS Sagemaker, Pandas, NumPy, Matplotlib, Data Analysis and Visualization, Data Mining