

# TASSALLAH AMINA ABDULLAHI

she/her/hers ◇ Providence, RI

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## RESEARCH INTERESTS

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Generative AI, Information Retrieval, Knowledge Graphs, LLM Reasoning, Data-Driven Drug Discovery, LLMs in Healthcare

## EDUCATION

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### Brown University

*Ph.D. Candidate in Computer Science*

*Sc.M. in Computer Science (GPA: 4.00/4.00)*

Advised by: Carsten Eickhoff (University of Tübingen) and Ritambhara Singh

Relevant Coursework: Data Science, Deep Learning, Computer Vision, AI in Healthcare, Learning with Limited Labeled Data

Providence, RI

Sept 2021 - Present

May 2023

### University of Cape Town

*M.Sc. in Computer Science (Awarded Distinction)*

*B.Sc. (Honors) in Information Technology*

Relevant Coursework: Intelligent Systems, Distributed Computing, Data Visualization, Evolutionary Computation

Cape Town, South Africa

May 2021

May 2019

### Bayero University Kano

*B.Sc. (Honors) in Computer Science (GPA: 4.34/5.00)*

Kano, Nigeria

May 2014

## SELECTED PROJECTS & PUBLICATIONS

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### Retrieval-Augmented Systems and Knowledge Integration

- **Tassallah Abdullahi**, Ioanna Gemou, Nihal Nayak, et al. *K-Paths: Reasoning over Graph Paths for Drug Repurposing and Drug Interaction Prediction*. KDD, 2025 (Under Review).
- **Tassallah Abdullahi**, Ritambhara Singh, Carsten Eickhoff. *Retrieval Augmented Zero-Shot Text Classification*. ACM SIGIR International Conference on Theory of Information Retrieval 2024.
- **Tassallah Abdullahi**, Laura Mercurio, Ritambhara Singh. *Retrieval-Based Diagnostic Decision Support: A Mixed Methods Study*. JMIR Medical Informatics, 2024.

### Generative AI and LLMs in Medicine

- Ishaani Khatri, **Tassallah Abdullahi**, et al. *Diagnostic Accuracy of ChatGPT4.0 for TIA or Stroke Using Patient Symptoms and Demographic Data*. International Stroke Conference, 2025.
- **Tassallah Abdullahi**, Ritambhara Singh, Carsten Eickhoff. *Learning to Make Rare and Complex Diagnoses with Generative AI Assistance*. JMIR Medical Education, 2024.

### Healthcare Datasets and Predictive Models

- Tobi Olatunji, **Tassallah Abdullahi**, et al. *AfriMed-QA: A Pan-African, Multi-Specialty, Medical Question-Answering Benchmark Dataset*. ACL ARR, 2025 (Under Review).
- Mardhiyyah Sanni, **Tassallah Abdullahi**, et al. *Afrispeech-Dialog: A Benchmark Dataset for Spontaneous English Conversations in Healthcare and Beyond*. NAACL, 2025.
- **Tassallah Abdullahi**, Adeel Abbasi, Carsten Eickhoff. *Establishing the Timing of Patient Outcomes for Time-Series Modeling in Predictive Medicine*. (In preparation).

### AI and Climate Health Predictions

- **Tassallah Abdullahi**, Neville Sweijd, Geoff Nitschke. *Predicting Disease Outbreaks with Climate Change*. PLOS ONE, 2021.

## WORK EXPERIENCE

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### EUC Africa Pty.

Microsoft Azure Administrator (Intern)

Cape Town, South Africa

Oct 2020 - Apr 2021

- Managed Azure resources, implemented virtual networks, and automated tasks using PowerShell.
- Enhanced operational efficiency through robust monitoring and troubleshooting with Azure Monitor.
- Ensured secure resource access by implementing identity management using Azure Active Directory.

### University of Cape Town

Research Assistant

Cape Town, South Africa

Jun - Aug 2020

- Worked on a National Research Foundation project to model climate change impacts on healthcare.
- Assisted in the development and assessment of first-year algorithms coursework.

## INVITED TALKS & WORKSHOPS

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### Brown University's Sixth Annual Love Data Week

The Burden of Diagnostic Errors.

Feb 2025

### Emory Health AI Bias Datathon

Medical imaging, breast cancer disparities, and evidence-based medicine. *HITI Lab, Emory University.*

Aug 2024

### Clinical Machine Learning Workshop

Can Generative Large Language Models Perform Complex Diagnostics? *The Warren Alpert Medical School, Brown University.*

Feb 2024

### Research Matters: Brown University

The Burden of Limited Labeled Data for Diagnostics.

Apr 2023

## MENTORSHIP

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### Data Science Mentor

Mentored participants at the Health AI Systems Thinking for Equity (HASTE) Datathon.

Brown University Datathon, Jun 2024

### Undergraduate Mentorship

- Ioanna Gemou - Brown University, Providence, RI Sep 2024 - Feb 2024
- Mikayla Walsh - Brown University, Providence, RI Feb 2024 - Jun 2024
- Ilana Nguyen - Brown University, Providence, RI Oct 2023 - Feb 2024

### Erasmus Study Abroad Program

Ali Bacaksiz - University of Tübingen, Germany, under Carsten Eickhoff.

Jun - Oct 2023

## AWARDS

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ACM SIGHPC Computational & Data Science Fellowship

2022-2025

Brown University Diversity Fellowship

2021-2024

National Research Foundation Scholarship (South Africa)

2020

Mandela Institute for Development Studies Scholarship

2019-2020

## SKILLS

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### Programming Languages

Python, MySQL, R, Java

### Frameworks/Tools

PyTorch, TensorFlow, Keras, Scikit-learn, Pandas, Numpy, Git

### Cloud Platforms

Microsoft Azure, Google Cloud Platform (GCP)

### Languages

English, Hausa, Yoruba

### Specialized Areas

LLM fine-tuning, Prompt Optimization, Retrieval-Augmented Generation, Knowledge Management

## REFERENCES

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Ritambhara Singh - Brown University, Providence, RI

Carsten Eickhoff - University of Tübingen, Germany

Hamish Fraiser - Brown University, Providence, RI

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