

# TASSALLAH AMINA ABDULLAHI

she/her/hers ◇ Providence, RI

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## RESEARCH INTERESTS

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Foundation Models and Generative AI, Information Retrieval and LLM Reasoning, Data-Driven AI, 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**, 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

- **Tassallah Abdullahi**, Ritambhara Singh, Carsten Eickhoff. *Learning to Make Rare and Complex Diagnoses with Generative AI Assistance*. JMIR Medical Education, 2024.
- **Tassallah Abdullahi**, Carsten Eickhoff, Ritambhara Singh. *Reasoning Beyond Direct Links: Knowledge Graph Enhanced LLMs for Clinical Interaction Analysis and Drug Repurposing*. (In preparation).
- 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.

### 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

<b>EUC Africa Pty.</b> <i>Microsoft Azure Administrator (Intern)</i>	Cape Town, South Africa Oct 2020 - Apr 2021
<ul style="list-style-type: none"><li>Managed Azure resources, implemented virtual networks, and automated tasks using PowerShell.</li><li>Enhanced operational efficiency through robust monitoring and troubleshooting with Azure Monitor.</li><li>Ensured secure resource access by implementing identity management using Azure Active Directory.</li></ul>	
<b>University of Cape Town</b> <i>Research Assistant</i>	Cape Town, South Africa Jun - Aug 2020
<ul style="list-style-type: none"><li>Worked on a National Research Foundation project to model climate change impacts on healthcare.</li><li>Assisted in the development and assessment of first-year algorithms coursework.</li></ul>	

INVITED TALKS & WORKSHOPS

<b>Emory Health AI Bias Datathon</b> Medical imaging, breast cancer disparities, and evidence-based medicine. <i>HITI Lab, Emory University.</i>	Aug 2024
<b>Clinical Machine Learning Workshop</b> Can Generative Large Language Models Perform Complex Diagnostics? <i>The Warren Alpert Medical School, Brown University.</i>	Feb 2024
<b>Research Matters: Brown University</b> The Burden of Limited Labeled Data for Diagnostics.	Apr 2023

MENTORSHIP

<b>Data Science Mentor</b> Mentored participants at the Health AI Systems Thinking for Equity (HASTE) Datathon.	Brown University Datathon, Jun 2024
<b>Undergraduate Mentorship</b> <ul style="list-style-type: none"><li>Mikayla Walsh - Brown University, Providence, RI</li><li>Ilana Nguyen - Brown University, Providence, RI</li></ul>	Feb 2024 - Present Oct 2023 - Feb 2024
<b>Erasmus Study Abroad Program</b> Ali Bacaksiz - University of Tübingen, Germany, under Carsten Eickhoff.	Jun - Oct 2023

AWARDS

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

<b>Programming Languages</b>	Python, MySQL, R, Java
<b>Frameworks/Tools</b>	PyTorch, TensorFlow, Keras, Scikit-learn, Pandas, Numpy, Git
<b>Cloud Platforms</b>	Microsoft Azure, Google Cloud Platform (GCP)
<b>Languages</b>	English, Hausa, Yoruba
<b>Specialized Areas</b>	LLM fine-tuning, Prompt Optimization, Retrieval-Augmented Generation, Knowledge Management

REFERENCES

Ritambhara Singh - Brown University, Providence, RI	<a href="mailto:ritambhara@brown.edu">ritambhara@brown.edu</a>
Carsten Eickhoff - University of Tübingen, Germany	<a href="mailto:carsten.eickhoff@uni-tuebingen.de">carsten.eickhoff@uni-tuebingen.de</a>
Hamish Fraiser - Brown University, Providence, RI	<a href="mailto:hamish_fraiser@brown.edu">hamish_fraiser@brown.edu</a>