

# Dr. Nentawe Yusuf Gurumdimma

## *Curriculum Vitae*



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## EDUCATION

- 2011 – 2016 **Doctor of Philosophy, PhD**  
Computer Science  
*University of Warwick, UK*
- 2008 – 2009 **Master of Science**  
Computer Science  
*African University of Science and Technology, AUST, Abuja - Nigeria*
- 2002 – 2006 **Bachelor of Computer Science**  
Department of Mathematics  
*The University of Jos - Nigeria*

## AFFILIATIONS/MEMBERSHIPS

- 2013 - DATE IEEE Member  
2020 - DATE ACM Member  
2017 - DATE Member Nigerian Computer Society (NCS)

## WORK EXPERIENCE

OCT. 2022 - DATE (FT)

University of Jos - Nigeria  
**Senior Lecturer**

My roles in this position include:

**Postgraduate Programme Coordinator:** I plan, organize and coordinate all postgraduate programmes (Masters and PhD Computer Science).

**Organize and teach undergraduate courses** like: Special Topics in Computer Science, Databases, Computer Systems, Design and Analysis of Algorithms.

**Organize and teach Postgraduate Courses:** Advanced Databases, Research Methods, Data Mining.

Conduct research on *Predicting risk levels of cardiovascular disease from non-invasive risk factors*. I and my co-researchers built a tool for detecting such risk which is used by cardiologist at the Jos University Teaching Hospital. Other research work I am involved in include *Detection of cervical cancer from papsmear images using deep learning*.

2019 - 2022 (FT)

University of Jos - Nigeria  
**Lecturer I**

My roles in this position include:

**Postgraduate Programme Coordinator:** I plan, organize and coordinate all postgraduate programmes (Masters and PhD Computer Science).

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2016 – OCT. 2019 (FT)

University of Jos - Nigeria

***Lecturer II***

In this role, I do research and teach Undergraduate Courses which include: Database Management System, Computer Systems and Postgraduate course: Advanced Databases.

2012 – NOV. 2015 (PT)

University of Warwick, UK

***Seminar Tutor/Teaching Assistant***

Courses taught include: Computer Security, Advanced Databases, Linux Professional Skills.

2012 – NOV. 2014 (PT)

University of Warwick, UK

***Masters Students' Mentor***

Mentoring prospective PhD students on proposal writing and funding applications.

2009 – NOV 2011 (FT)

UNIVERSITY OF JOS - NIGERIA

***Assistant Lecturer***

In this role, I was involved in teaching, research and community service. I teach courses like Programming, Databases, Computer Systems etc.

## **RESEARCH INTEREST**

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I am interested in data mining and Machine Learning particularly in the application in Health and distributed systems. In my PhD research, studied utilizing Unsupervised Machine learning method for detecting errors that lead to failures in HPC systems. These errors are rare events, therefore it was treated as an anomaly detection problem. Currently, I am looking at application of Machine Learning in health care. One of my works is in the area of exploring transfer learning in predicting cervical cancer from papsmear images. Similarly, I am working with other researchers on utilizing machine learning to predict Cardiovascular disease risk level in people with no symptoms. Particularly, the work looks at the possibility of using non-lab test variables (non-invasive risk factors) in predicting risk level.

Going forward, I want to look into how medical data can influence the performance of Machine learning /Deep Learning algorithms. Machine learning and deep learning algorithms/architectures have performed excellently well in different domains. A lot of research works have been done on improving their performances. However, at the centre of the performance of these algorithms is data. Having a high quality data that works well is as important as building a good model if not more. Such data are either not available or not in good shape to be used or even the processes of the data collection cannot guarantee quality. I want to look at data-centric approaches to improving performances of Machine Learning models. I am also interested in economics and computation. In this, I am interested in looking at how Machine learning and algorithms can be utilized for economic issues and /or economic policies.

## PUBLICATIONS (SELECTED)

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- [1] C. S. Yilgwan, N. Gurumdimma, R. M. Sulague, and J. Kpodonu, "Gaps, obstacles, and opportunities in rheumatic heart disease research.," *JACC: Advances*, vol. 0, no. 0, 2023. DOI: 10.1016/j.jacadv.2023.100293. [Online]. Available: <https://www.jacc.org/doi/abs/10.1016/j.jacadv.2023.100293>.
- [2] A. Sirisena, N. Gurumdimma, D. Oguche, and B. Okeahialam, "Development of a jos cardiovascular disease risk app to improve screening for atherosclerotic cardiovascular diseases.," *HT Health Technology*, vol. 6, no. 1, 2022. DOI: 10.21037/ht-21-22. [Online]. Available: <https://ht.amegroups.com/article/view/7398>.
- [3] I. Simon, A. Deme, and N. Gurumdimma, "An effective deep learning model for covid-19 detection from chest x-ray.," *International Journal of Research and Innovation in Social Science*, vol. V, no. XI, 2021. [Online]. Available: <https://www.rsisinternational.org/virtual-library/papers/an-effective-deep-learning-model-for-covid-19-detection-from-chest-x-ray/>.
- [4] N. Gurumdimma, D. Bisandu, and E. Ojedayo, "Event extraction from textual data.," *Journal of Computer Science and Its Application.*, vol. 26, no. 1, 2019. DOI: 10.4314/jcsia.v26i1.4. [Online]. Available: <https://www.ajol.info/index.php/jcsia/article/view/193074>.
- [5] V. C. Pam, C. Yilgwan, D. D. Shwe, *et al.*, "Head circumference of babies at birth in nigeria," *Journal of tropical pediatrics.*, vol. 65, no. 6, pp. 626–633, 2019. DOI: 10.1093/tropej/fmz024. [Online]. Available: <https://doi.org/10.1093/tropej/fmz024>.
- [6] N. Gurumdimma and A. Jhumka, "Detection of recovery patterns in cluster systems using resource usage data," in *22nd IEEE Pacific Rim International Symposium on Dependable Computing, PRDC 2017, Christchurch, New Zealand, January 22-25, 2017*, D. S. Kim, M. Kitakami, and V. Varadharajan, Eds., IEEE Computer Society, 2017, pp. 58–67. DOI: 10.1109/PRDC.2017.17. [Online]. Available: <https://doi.org/10.1109/PRDC.2017.17>.
- [7] E. Chuah, A. Jhumka, S. Alt, *et al.*, "Enabling dependability-driven resource use and message log-analysis for cluster system diagnosis," in *24th IEEE International Conference on High Performance Computing, HiPC 2017, Jaipur, India, December 18-21, 2017*, IEEE Computer Society, 2017, pp. 317–327. DOI: 10.1109/HiPC.2017.00044. [Online]. Available: <https://doi.org/10.1109/HiPC.2017.00044>.
- [8] N. Gurumdimma, A. Jhumka, M. Liakata, E. Chuah, and J. C. Browne, "CRUDE: combining resource usage data and error logs for accurate error detection in large-scale distributed systems," in *35th IEEE Symposium on Reliable Distributed Systems, SRDS 2016, Budapest, Hungary, September 26-29, 2016*, IEEE Computer Society, 2016, pp. 51–60. DOI: 10.1109/SRDS.2016.017. [Online]. Available: <https://doi.org/10.1109/SRDS.2016.017>.
- [9] E. Chuah, A. Jhumka, J. C. Browne, N. Gurumdimma, S. Narasimhamurthy, and B. Barth, "Using message logs and resource use data for cluster failure diagnosis," in *23rd IEEE International Conference on High Performance Computing, HiPC 2016, Hyderabad, India, December 19-22, 2016*, IEEE Computer Society, 2016, pp. 232–241. DOI: 10.1109/HiPC.2016.035. [Online]. Available: <https://doi.org/10.1109/HiPC.2016.035>.
- [10] N. Gurumdimma, A. Jhumka, M. Liakata, E. Chuah, and J. C. Browne, "Towards detecting patterns in failure logs of large-scale distributed systems," in *2015 IEEE International Parallel and Distributed Processing Symposium Workshop, IPDPSW 2015, Hyderabad, India, May 25-29, 2015*, IEEE Computer Society, 2015, pp. 1052–1061. DOI: 10.1109/IPDPSW.2015.109. [Online]. Available: <https://doi.org/10.1109/IPDPSW.2015.109>.

- [11] N. Gurumdimma, A. Jhumka, M. Liakata, E. Chuah, and J. Browne, "Towards increasing the error handling time window in large-scale distributed systems using console and resource usage logs," in *2015 IEEE TrustCom/BigDataSE/ISPA, Helsinki, Finland, August 20-22, 2015, Volume 3*, IEEE, 2015, pp. 61–68. DOI: 10.1109/Trustcom.2015.613. [Online]. Available: <https://doi.org/10.1109/Trustcom.2015.613>.

## PROJECT/DISSERTATION SUPERVISION

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### *Postgraduate*

I am currently supervising about 10 MSc Computer Science student. Some of the topics include:

- Identification of Precancerous papsmear using Transfer Learning
- Predicting the risk level of Cardiovascular disease from non-invasive features.
- Flight Delay prediction.
- Covid-19 detection from Xray images using deep learning approach.

### *Undergraduate*

I have supervised over 40 and more undergraduate students. Some topics include:

- Machine Learning approach to Fake News Detection.
- Event Detection from News.
- Detecting Hate Speech from social media.
- Predicting Movie success.

## ADMINISTRATIVE RESPONSIBILITIES

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2016 – DATE

University of Jos, Nigeria  
***Student Adviser***

Provide students with mentoring support on course choices and study habits for a successful completion.

2019 – DATE

University of Jos, Nigeria  
***Postgraduate Coordinator***

Provide a high standard of academic related administrative support to the department and postgraduate students. Facilitate the preparation and updating of Postgraduate programme materials.

Responsible for maintaining module descriptions and postgraduate student records in line with university policy. Coordinating arrangements with external examiners.

## EDITORIAL DUTIES

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- Reviewer, IEEE Access Journal.
- Programme Committee member/Reviewer, International conference on Emerging Trends in Networks and Computer Communication, Windhoek, Namibia, 2015.

## ENTREPRENEURIAL ACTIVITIES

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2017 – DATE

University Innovation Hub, Jos, Nigeria

### ***Co-Visioneer and Technical lead***

I co-established an Innovation Hub where creatives (students and staff) can develop technical and entrepreneurial skills that are relevant in the industry. The hub has had a good success rate with many of its beneficiaries contributing significantly in major projects locally and internationally and establishing their companies.

## DEVELOPMENT/SKILLS TRAINING

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UNIV. OF WARWICK, 2013    Teamwork in a Research Environment

Academic and Scientific writing

UNIV. OF WARWICK, 2014    Envisioning and Enabling Innovation

## PROFESSIONAL SKILLS

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### *Technical*

PROGRAMMING    Java, Python, Matlab, R, SQL

OTHERS    HTML, CSS, L<sup>A</sup>T<sub>E</sub>X

PLATFORMS    Comfortable with: Unix/Linux, Windows, Mac OS

### *Communication*

CONFERENCES    Over many years, I have communicated my research findings through Journals, conferences, workshops and lectures. It has built my oral and written communications skills over the years

### *Others*

TEAMWORK    Excellent Teamwork built through collaborative work more than 8 years.

## AWARDS

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2008-2009    **AUST/World Bank Masters full Scholarship**  
*African University of Science & Technology, AUST-Abuja*

2011    **Petroleum Technology Development Agency, PhD Scholarship**  
*The University of Warwick, UK*

## RESEARCH GRANTS

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JUL.2022- JUN.2023    **Embassy of France in Nigeria, Solidarity Fund for Innovative Projects**  
*Web-based AI-enabled Malaria Information System*

AMOUNT:    **€30,000**

NOV.2023- JUN.2024    **New Venture Fund with Data.org and Microsoft**  
*Generative AI Skills*

AMOUNT:    **\$250,000**

## SOME CONFERENCES ATTENDED AND PRESENTED A TALK

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- IEEE Trustcom/BigDataSE/ISPA, Helsinki, 20-22 Aug 2015
- IEEE International Parallel and Distributed Processing Symposium, IPDPS 2015, Hyderabad, India

- IEEE PRDC 2017, Christchurch, New Zealand.
- Economics and Computation, EC'20, July 14-16, 2020 (Virtual)

## HOBBIES

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I love to play Tennis and football. I also enjoy reading.

## REFEREES

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### **Dr. Arshad Jhumka**

POSITION Reader  
EMPLOYER Department of Computer Science  
*University of Warwick, UK*  
EMAIL H.A.Jhumka@warwick.ac.uk  
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### **Prof. N.V. Blamah**

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EMPLOYER Department of Computer Science  
*University of Jos-Nigeria*  
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### **Prof. D.N. Choji**

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