TAIWO EKUNDAYO SOEWU

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Summary

I am a passionate researcher with background in Natural Language Processing, Computer Vision, Image Processing and Deep Learning with experience mentoring and tutoring peers, undergraduate and postgraduate students. I am also a software engineer with over 7 years industrial experience in programming and best software practices.

Research Interests

My research interest is in the intersection of AI and Bioinformatics and the application of Deep Learning (DL) to healthcare.

Education

MTech. Machine Learning and Artificial Intelligence, *Lovely Professional University (LPU)*, Punjab, India. (08/2021 - 06/2023).
Thesis: Automated brain tumor detection using transfer learning and feature fusion. Supervisors: Dr. Ashish Soni & Dr. Harpreet Kaur.
CGPA: 8.68/10.0

BSc. Computer Engineering, *Olabisi Onabanjo University (OOU),* Ago-Iwoye, Nigeria. (11/2012 - 10/2017).
Final Year Project: Design and development of a responsive university research group website.
CGPA: 4.78/5.0

Research Experience

Harpreet Kaur's Lab, Lovely Professional University, Punjab, India. (12/2021 - 06/2023)

- Developed and compared deep learning models for segmenting brain tumors in MRI scans.
- Carefully evaluated the performance of the created models using the required metrics.
- Conducted extensive architecture benchmarking and hyperparameter tuning.
- Worked on a novel architecture combining transfer learning, feature fusion, and decision fusion for improved classification accuracy.
- Actively participated in research group discussions and departmental seminars focused on deep learning, AI ethics, and medical imaging
- Collaborated on the preparation, revision, and submission of peer-reviewed research manuscripts to reputable journals.
- Presentation of accepted papers at conferences.

Relevant Publications

Journal
- T. Soewu, H. Kaur, and A. Soni, "TDF2Net: Transferred Deep Features Fusion Network for Brain Tumor Classification" in *Brain Informatics*, 2025, (Submitted)

Conferences/Presentations
- H. Kaur, T. Soewu, H. S. Sohal, M. A. H. Research and G. Singh, "An Empirical Review on Security Scheme in IOT," *2023 14th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Delhi, India, 2023, pp. 1-7, doi: 10.1109/ICCCNT56998.2023.10306522
- T. Soewu, A. Soni and H. Kaur, "Brain Tumor Segmentation using Deep Learning Techniques: Comparative Analysis," *2023 3rd International Conference on Artificial Intelligence and Signal Processing (AISP)*, VIJAYAWADA, India, 2023, pp. 1-6, doi: 10.1109/AISP57993.2023.10134872
- T. Soewu, Hemant, M. Rakhra and D. Singh, "Analysis of Data Mining-Based Approach for Intrusion Detection System," *2022 5th International Conference on Contemporary Computing and Informatics (IC3I)*, Uttar Pradesh, India, 2022, pp. 908-912, doi: 10.1109/IC3I56241.2022.10072828
- T. Soewu, D. Singh, M. Rakhra, G. S. Chakraborty and A. Singh, "Convolutional Neural Networks for MRI-Based Brain Tumor Classification," *2022 3rd International Conference on Computation, Automation and Knowledge Management (ICCAKM)*, Dubai, United Arab Emirates, 2022, pp. 1-7, doi: 10.1109/ICCAKM54721.2022.9990173

Book Chapters
- T. Soewu et al., "Machine learning and deep learning for cancer diagnosis," in *Elsevier eBooks*, 2025, pp. 83–129. doi: 10.1016/b978-0-443-21505-6.00009-8.
- T. Soewu et al., "Machine learning models for text and image processing," in *Elsevier eBooks*, 2024, pp. 153–177. doi: 10.1016/b978-0-443-22158-3.00007-7.

Most Recent Work Experience

1. Software Engineer, Full stack at *Build with Assembly,* Canada - Remote, Contract. (07/2024 till date)

- Define, review, communicate and follow development approaches for the technical tasks
- Design and develop .NET-based web applications, web APIs, class libraries and services
- Build UI components and compose them into applications for multiple browsers
- Produce high-quality, low-defect, reusable code that follows the current design patterns and best practices
- Help maintain and support the existing solutions, including some of the legacy applications
- Work closely and collaborate with a team of developers, architects, business analysts and scrum masters communicating effectively and working together to reach defined goals and meet deadlines

2. Senior Software Engineer at *TotalEnergies*, Lagos – Hybrid, Contract (08/2023 till date)
   - Designed, coded, and tested software applications using state-of-the-art technologies
   - Developed, maintained, and enhanced software solutions to meet business requirements
   - Analyzed and troubleshot software defects and issues, providing timely and effective solutions
   - Participated in the design and architecture of software systems, ensuring scalability, maintainability, and performance.
   - Collaborated with cross-functional teams to define software requirements and specifications.
   - Designed and maintained database schemas and wrote SQL queries for data retrieval and manipulation.
   - Implemented security best practices to protect sensitive data and prevent vulnerabilities.
   - Created technical documentation, including system architecture, code comments, and user manuals

Skills

Soft Skills

Attention to details, Fast learning, Peer tutoring, Problem solving, Leadership, Team-work, Analytical mindset, Self-organization, Communication and Collaboration, Ability to work on-site or remotely.

Technology Skills

Front-end:	HTML, CSS, Javascript (ReactJS).
Back-end:	PHP (Laravel), Python, C#, ASP.NET, Javascript.
Database:	Microsoft SQL, MySQL, MongoDB, PostgreSql.
Cloud:	Microsoft Azure, AWS, Google Cloud.
Others:	Microsoft Office, Version Control Systems, Agile (Scrum), CI/CD pipeline, TensorFlow, PyTorch

Awards, Honors and Certifications

- Graduate Student Member: Institute of Electrical Electronics Engineer (IEEE), November 2022.
- Study In India Scholarship Award, August 2021.
- Microsoft Certified: Microsoft Azure Data Fundamentals, March 2021.
- Microsoft Certified: Microsoft Azure DevOps Engineer Expert, February 2021.
- Microsoft Certified: Microsoft Azure Developer Associate, February 2021.
- Saint Louis University Global Graduate Scholarship Award, November 2020.
- Microsoft Certified: Microsoft Azure AI Engineer Associate, September 2020.
- Scientific Computing and Python for Data Science by WorldQuant University, March
- 2020.
- Graduate Member: Nigerian Society of Engineers, June 2020.
- Member: International Association of Engineers, July 2020.
- Microsoft Certified: Microsoft Azure Administrator Associate, November 2019.
- Microsoft Certified: Microsoft Azure Fundamentals, September 2019.
- Best Graduating Student for the class of 2017, College of Engineering and Environmental
- Studies, Olabisi Onabanjo University, Ago-Iwoye, January 2018.

Volunteering and Extracurricular Activities

- Community Project Phase Supervisor: Google Africa Developer Scholarship, October 2022.
- Member: Google Developer Students Club (GDSC, LPU), 2022.
- MWS Mentor: Google Africa Developer Scholarship, July 2021.
- Mentor: ALC-Microsoft 4Afrika Skillslab, January 2021.
- Microsoft Azure Trainer: ALCwithMicrosoft, June 2020.
- Member: Computer Engineering Students Association (COESA, OOU), 2017.

Hobbies and Interests

Researching new technology discoveries, watching ICT documentaries, learning new tools and technologies.

Referees

Available on request.