Olutomilayo Olayemi Petinrin

olutomilayo | Olutomilayo | olutomilayo.github.io | olutomilayo.petinrin@gmail.com | +85251619943

Professional Summary

A committed data science researcher, with over seven years of experience in telling insightful stories with data in high-impact areas of applied data science research such as machine learning for drug discovery, bioinformatics and the hybridization of nature-inspired algorithms for efficiency improvement. The increasingly critical role being played by data in modern research, coupled with its potential for addressing perennial challenges in different aspects of our society makes this field an exciting one. Every task presents an opportunity to not only contribute to the solution of pressing problems, but also be on the cutting edge of the evolving frontiers of important developments. My career commitment is firmly geared towards growth, positive socio-technical contribution and lasting impact.

Research Interest

Artificial Intelligence, Computational Biology, Data Science, Deep Learning, Health Analytics, Machine Learning.

Work Experience

Intelligent Automation Engineer **Oct 2023 - Present**
RPA (HK), Ltd *Hong Kong*

- Development of software robots for work automation.
- Customized knowledge-based GPT for specific client needs.
- Prompt engineering, and Artificial Intelligence.

Visiting Research Scholar **Sept 2022 - Feb 2023**
Cornell University *Ithaca, NY, USA*

- Collaboration with researchers to understand causal inference and apply the concept to clinical data for decision-making.
- Development of machine learning methods for Cancer and Tuberculosis patient classification based on genomics and metabolomics data sets.
- Time series analysis of ambulatory blood pressure data for sleep pattern detection.

Teaching Assistant / Machine Learning Researcher **Sept 2019 - Aug 2023**
CORIL Lab, City University of Hong Kong *Hong Kong*

- Applied machine learning and deep learning for predictive analysis and modelling for solutions and insights.
- Lab tutor for the following courses: Data-Intensive Computing, Big data Algorithm & Technique, Introduction to Computer Programming, and Introduction to Computer Science.

Assistant Lecturer **Mar 2018 - Aug 2019**
Kings University *Odeomu, Nigeria*

- Developed curriculum, and taught the following courses: Fundamentals of Data Structure & Algorithms, Computer Networks, and Object-Oriented Programming.
- Developed mid-semester quizzes, homework, and exams; Coordinated labwork participation and grading.
- Supervised students' final year projects.

System Analyst **May 2015 - Apr 2016**
National Institute for Educational Planning and Administration *Ondo, Nigeria*

- Traced and restored network disconnections in the different parastatals of the Institute.
- Tutored university interns on practical networking and web development skills.
- Core member of the networking team that set up a computer-based test facility for almost 1000 students.

Intern **Aug 2012 - Feb 2013**
Bureau of Computer Services and Information Technology, Office of the Governor *Osogbo, Nigeria*

- Monitored the Network Operating Center (NOC) of the State. I also traced connection loss and facilitated its restoration.
- Responsible for constant network connection in all office ministries.
- Tutored college students on basic computer skills.

Education

Doctor of Philosophy - Computer Science; GPA: 3.65/4 **Sept 2019 - Aug 2023**
City University of Hong Kong (CityU)

Thesis title: Interpretable Machine Learning from Drug Synthesis to Medical Treatment.

Master of Computer Science; GPA: 3.95/4 **Aug 2016 - Dec 2017**
Universiti Teknologi Malaysia (UTM)

Dissertation title: Bioactive Molecular Compound Prediction using Stacking and Voting ensemble.

Bachelor of Science - Computer Science; GPA: 4.53/5 **Sept 2009 - Dec 2014**
Ekiti State University, Ado-Ekiti (EKSU)

Project title: Facial Recognition Using Artificial Neural Network and Feature Selection.

Honors and Awards

Outstanding Academic Performance Award - for coursework and research performance **2022**
City University of Hong Kong.

Research Tuition Scholarship - for publication performance **2020**
City University of Hong Kong.

Postgraduate Studentship Award - for exceptional research talents **2019 - 2023**
City University of Hong Kong.

Best Student Award - for Master of Computer Science **2018**
Faculty of Computing, Universiti Teknologi Malaysia.

MTN Foundation Scholarship Award for Science Students - 500 selected in the country **2012 - 2014**
MTN Nigeria.

University Scholarship Award - for first class students **2011**
Ekiti State University Ado-Ekiti.

Publication

1. Zhe, L., **Petinrin, O.O.**, Toseef, M., Chen,, N., & Wong, K. C. (2023). "Construction of Immune Infiltration-Related LncRNA Signatures Based on Machine Learning for the Prognosis in Colon Cancer". Biochemical Genetics, 1-28. https://doi.org/10.1007/s10528-023-10516-4
2. Toseef, M., **Petinrin, O.O.**, Wang, F., Rahaman, S., Liu, Z., Li, X., & Wong, K. C. (2023). "Deep transfer learning for clinical decision-making based on high-throughput data: comprehensive survey with benchmark results". Briefings in Bioinformatics, bbad254. https://doi.org/10.1093/bib/bbad254
3. **Petinrin, O. O.**, Saeed, F., Salim, N., Toseef, M., Liu, Z., & Muyide, I. O. (2023). "Dimension Reduction and Classifier-Based Feature Selection for Oversampled Gene Expression Data and Cancer Classification". Processes, 11(7), 1940. https://doi.org/10.3390/pr11071940
4. **Petinrin, O.O.**, Saeed, F., Toseef, M., Liu, Z., Basurra, S., Muyide, I.O., Li, X., Lin, Q., & Wong, K.C. (2023). "Machine Learning in Metastatic Cancer Research: Potentials, Possibilities, and Prospects". Computational and Structural Biotechnology Journal Vol. 21, 2454-2470. https://doi.org/10.1016/j.csbj.2023.03.046
5. **Petinrin, O. O.**, Saeed, F., Li, X., Ghabban, F., & Wong, K. C. (2022). "Reactions descriptors selection and yield estimation using metaheuristic algorithms and voting ensemble". Computers, Materials and Continua, 70(3), 4745-4762. https://doi.org/10.32604/cmc.2022.020523
6. Liu, Z., Liu, X., Liu, F., Zhao, H., Zhang, Y., Wang, Y., Ma, Y., Wang, F., Zhang, W., **Petinrin, O.O.**, Yao, Z., Liang, J., He, Q., Feng, D., Wang, L., & Wong, K. C. (2022). "The comprehensive and systematic identification of BLCA-specific SF-regulated, survival-related AS events". Gene, 835, 146657. https://doi.org/10.1016/j.gene.2022.146657
7. **Petinrin, O. O.**, Li, X., & Wong, K. C. (2021). "Particle Swarm Optimized Gaussian Process Classifier for Treatment Discontinuation Prediction in Multicohort Metastatic Castration-Resistant Prostate Cancer Patients". IEEE Journal of

Biomedical and Health Informatics, 26(3), 1309-1317. https:www.doi.org/10.1109/JBHI.2021.3103989

8. Liu, L., Chen, X., **Petinrin, O. O.**, Zhang, W., Rahaman, S., Tang, Z. R., & Wong, K. C. (2021). "Machine learning protocols in early cancer detection based on liquid biopsy: a survey". Life, 11(7), 638. https://doi.org/10.3390/life11070638
9. Ogunsina, A. A., Petinrin, M. O., **Petinrin, O. O.**, Offornedo, E. N., Petinrin, J. O., & Asaolu, G. O. (2021). "Optimal distributed generation location and sizing for loss minimization and voltage profile optimization using ant colony algorithm". SN Applied Sciences, 3(2), 1-10. https://doi.org/10.1007/s42452-021-04226-y
10. **Petinrin, O. O.**, & Wong, K. C. (2021). "Protocol for epistasis detection with machine learning using genepi package". In Epistasis (pp. 291-305). Humana, New York, NY. https://doi.org/10.1007/978-1-0716-0947-7_18
11. Aghimien, E. I., Aghimien, L. M., **Petinrin, O. O.**, & Aghimien, D. O. (2020). "High-performance computing for computational modelling in built environment-related studiesa scientometric review". Journal of Engineering, Design and Technology, Vol. 19 No. 5, pp. 1138-1157.. https://doi.org/10.1108/JEDT-07-2020-0294
12. **Petinrin, O. O.**, & Saeed, F. (2019). "Stacked ensemble for bioactive molecule prediction". IEEE Access, 7, 153952-153957. https://doi.org/10.1109/ACCESS.2019.2945422
13. Hameed, S. S., **Petinrin, O. O.**, Hashi, A. O., & Saeed, F. (2018). "Filter-wrapper combination and embedded feature selection for gene expression data". Int. J. Advance Soft Compu. Appl, 10(1), 90-105.
14. Afolabi, L. T., Saeed, F., Hashim, H., & **Petinrin, O. O.** (2018). "Ensemble learning method for the prediction of new bioactive molecules". PloS one, 13(1), e0189538. https://doi.org/10.1371/journal.pone.0189538
15. **Petinrin, O. O.**, & Saeed, F. (2018). "Bioactive molecule prediction using majority voting-based ensemble method". Journal of Intelligent & Fuzzy Systems, 35(1), 383-392. https://doi.org/10.3233/JIFS-169596
16. **Petinrin, O. O.**, Saeed, F., & Al-Hadhrami, T. (2017, October). "Voting-based ensemble method for prediction of bioactive molecules". In 2017 2nd International Conference on Knowledge Engineering and Applications (ICKEA) (pp. 118-122). IEEE. https://doi.org/10.1109/ICKEA.2017.8169913
17. Muniru, I. O., Shifulah, N., **Petinrin, O. O.**, & Utama, N. P. (2017). "A Digital Technology Framework for Promoting Nutritional/Health Benefits of West African Diet". International Conference of Science, Engineering and Social Sciences (ICSESS) (29), 201-203.
18. **Petinrin, O. O.** & Olatunbosun, K. (2017) "Application of machine learning in prediction of bioactivity of molecular compounds: A review." Technology (ICONSEET), 2(2), 9-15.
19. Olatunbosun, K., & **Petinrin, O. O.** (2017). "Expert System for Diagnosis of Malaria and Typhoid Fever". Technology (ICONSEET), 2(44), 341-346.

Skills

Technical	Python, SQL, R, Javascript, C++, Scikit, TensorFlow, Keras, Windows, Linux, AWS
Soft Skills	leadership, management, scientific and professional communication, team building
Communication	English (professional), Yoruba (native), French (basic)

Professional Training and Certificate

Microsoft Certified: Power Automate RPA Developer Associate **Oct 24, 2023**
Microsoft

AWS Machine Learning Foundations 2022 **2022**
Udacity

Machine Learning A-Z: Hands-On Python & R in Data Science **Oct 21, 2021**
Udemy

ICSI | CNSS Certified Network Security Specialist **July 2020**
International Cybersecurity Institute

Data Analytics using RapidMiner **2017**
Faculty of Computing, Universiti Teknologi Malaysia.

Mendeley Workshop **2016**
Faculty of Computing, Universiti Teknologi Malaysia

Professional Affiliation

Member, IEEE **2023 - Present**
Member ID: 96241749

Member, IEEE Computational Intelligence Society **2023 - Present**

Member, IEEE Engineering in Medicine and Biology Society **2023 - Present**

Member, IEEE Women in Engineering **2023 - Present**

Member, Women in Data Africa **2022 - Present**

Associate Member, Hong Kong Computer Society (HKCS) **2021 - Present**
Member ID: A30198

Member, Organization for Women in Science for the Developing World (OWSD) **2018 - Present**
Member ID: 7310

Professional Service

Research Education Committee, Department of Computer Science, CityU **2021 - 2023**
Member

International Program Committee Member **2021**
5th International Conference on Intelligent Systems, Metaheuristics & Swarm Intelligence (ISMSI 2021)

Program Committee Member **2021**
28th International Conference on Neural Information Processing (ICONIP 2021)

Program Committee Member **2020**
27th International Conference on Neural Information Processing (ICONIP 2020)

RapidMiner Facilitator **2017**
Faculty of Computing, UTM

Central Working Committee Member **2017**
3rd International Conference on Science, Engineering, and the Social Sciences (ICSESS 2017)

Organizing Committee Member **2017**
2nd International Conference of Reliable Information and Communication Technology 2017 (IRICT 2017)

Peer-Reviewed Articles for:
- IEEE Journal of Biomedical and Health Informatics
- BioData Mining
- Computer Modeling in Engineering & Sciences
- Applied Soft Computing
- Frontiers in Genetics, Frontiers in Bioengineering and Biotechnology and Frontiers in Plant Science (Computational Genomics)
- CMC-Computers, Materials & Continua
- ICONIP 2020, 2021, 2022
- ICSMI 2021, 2022

Volunteering and Community Service

Association of Nigerian Scholars in Hong Kong (ANSHK) **2021 - 2023**
Secretary (first female)

Navigating Hong Kong, ANSHK **2020**
Guest Speaker

Electoral Committee, ANSHK **2020**
Member

Electoral Committee, International Student Society (ISS-NIGERIA), UTM **2017**
Member

Annual General Meeting (AGM) Committee, ISS-NIGERIA, UTM **2017**
Member

Information Communication Technology, Community Development Service Group. Ondo State. **2015 - 2016**
Project Coordinator

Joint Admissions and Matriculation Board **2016**
Proctor

Deeper Life Campus Fellowship **2011 - 2012**
Academic Director

Referee

Prof. Ka-Chun Wong
Associate Professor,
Department of Computer Science,
City University of Hong Kong.
Email: kc.w@cityu.edu.hk

Prof. Faisal Saeed
Senior Lecturer,
School of Computing and Digital Technology,
Birmingham City University.
Email: Faisal.Saeed@bcu.ac.uk

Dr. Victor Dibia
Principal Research Software Engineer,
Human-AI eXperiences (HAX),
Microsoft Research.
Email: victor.dibia@gmail.com