Adil Nawaz, Ph.D.

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Personal Information

Family Name: Nawaz **Given Name:** Adil **Date of Birth:** 1993–02–28
Nationality: Pakistan
Research Interests: Privacy-preserving machine learning; probabilistic modeling; federated learning; Bayesian methods; Computer Vision

Education

2021 – 2025 **Ph.D., Shenzhen University** in Computer Science & Technology.
Thesis title: *Federated Bayesian Optimization based on Secure Gaussian Process.*

2018 – 2020 **M.Eng., South China University of Technology** in Information & Communications Engineering
Thesis title: *Multilingual Scene Text Detection & Recognition using Deep Learning.*

2010 – 2014 **B.Sc. University of Engineering & Technology, Peshawar** in Telecom Engineering
Thesis title: *Crop Estimation & Geographical Mapping System using Multispectral Satellite Imagery.*

Employment History

2015 – 2018 **Lecturer.** Computer Science & IT, KP Elementary and Secondary Education Department.

Research Publications

Journal Articles

1. A. Nawaz, J. Li, V. C. Leung, S. Wang, and J. Chen, "F2gp: Privacy-preserving federated & fast gaussian process models with support set optimization," *IEEE Transactions on Dependable and Secure Computing*, pp. 1–18, 2025. DOI: 10.1109/TDSC.2025.3648425.

Conference Proceedings

1. A. **Nawaz**, S. Wang, J. Li, and J. Chen, "Federated bayesian optimization based on secure distributed gaussian processes," in *The Fourteenth International Conference on Learning Representations*, 2026, Under Review (**CCF–A**).
2. A. **Nawaz**, G. Chen, M. U. Raza, *et al.*, "Secure distributed sparse gaussian process models using multi-key homomorphic encryption," in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 38, 2024, 14 431–14439 (**CCF-A**).
3. M. U. Raza, J. Chen, A. **Nawaz**, *et al.*, "IBATree: A novel method for interpretable cancer cell diagnosis using information bottleneck attribution," in *2024 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, IEEE, 2024, 3661–3666 (**CCF-B**).

4. M. U. Raza, J. Chen, L. Wang, A. **Nawaz**, V. C. Leung, and J. Li, "Tree regularization for visual explanations of cancer cell classification," in *2024 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, IEEE, 2024, 3655–3660 (**CCF-B**).

5. Z. Iqbal, F. Ji, J. Li, *et al.*, "Composite virtual spatial modulation and its diversity enhancement," in *2023 IEEE International Conference on Communications*, IEEE, 2023, 320–325 (**CCF-C**).

6. M. U. Raza, A. **Nawaz**, X. Liu, *et al.*, "Visual Explanations: Activation-based acute lymphoblastic leukemia cell classification," in *2023 IEEE International Conference on Development and Learning (ICDL)*, IEEE, 2023, pp. 61–66.

7. A. **Nawaz**, Z. Iqbal, and S. Ullah, "Performance analysis of supervised image classification techniques for the classification of multispectral satellite imagery," in *2015 Fourth International Conference on Aerospace Science and Engineering (ICASE)*, 10.1109/ICASE.2015.7489513, 2015, pp. 1–5.

Skills

Languages	Fluent in English. Intermediate in Mandarin Chinese.
Coding	C++, Python, R, Matlab, LaTeX, …
Misc.	Academic research, teaching, training, LaTeX typesetting and publishing.

Miscellaneous Experience

Awards and Achievements

2018 **Chinese Government Scholarship (CGS) Silk Road Program**, Awarded in 2018 for Masters at South China University of Technology.

2021 **Guangdong Government Outstanding International Student Scholarhsip & Shenzhen University Scholarship**, Financial award to study for PhD at Shenzhen University for 4 years.

2022 **Best Paper Finalist Award**, Best Paper Finalist award at 2023 IEEE International Conference on Development and Learning (ICDL).

2024 **Shenzhen University Outstanding Innovative Talent Scholarship (Special Prize)** Highest level award, ¥77,000, Selected as one of the top PhD students for outstanding research achievements and innovation.

Excellence Award, Guangdong-Hong Kong-Macao Greater Bay Area Data Application Innovation Competition.

AAAI Travel Scholarship Award, Got Travel Scholarship funding for attending The 38th Annual AAAI Conference on Artificial Intelligence, Vancouver, B.C., Canada.

References

Victor C. M. Leung,
PhD, LFIEEE, FRSC, FCAE, FEIC
Distinguished Professor of Computer Science and Software Engineering Shenzhen University
vleung@ieee.org

Jie Chen, PhD
Assistant Professor & Distinguished Researcher
Head of Intelligence Science Department, School of AI, Shenzhen University
chenjie@szu.edu.cn

List of Publications

[1] **Nawaz, A.**, Chen, G., Raza, M. U., Iqbal, Z., Li, J., Leung, V. C. M., Chen, J. (2024). *Secure Distributed Sparse Gaussian Process Models Using Multi-key Homomorphic Encryption*. **Proceedings of the AAAI Conference on Artificial Intelligence**, 38(13), 14431–14439. **(CCF-A).**
https://ojs.aaai.org/index.php/AAAI/article/view/29357

[Conceived, Designed, Implemented and Written the manuscript (>95% contribution)**]**

[2] **Nawaz, A.**, Li, J., Leung, V. C. M., Wang, S., Chen, J. (2025). *F2GP: Privacy-preserving Federated and Fast Gaussian Process Models with Support Set Optimization.* **IEEE Transactions on Dependable and Secure Computing, Accepted. (CCF-A)**

https://ieeexplore.ieee.org/document/11316261

[Conceived, Designed, Implemented and Written the manuscript (>95% contribution)**]**

[3] **Nawaz, A.**, Li, J., Leung, V. C. M., Wang, S., Chen, J. (2025). *Federated Bayesian Optimization via Distributed Sparse Gaussian Processes.* **Manuscript presented at the Fourteenth International Conference on Learning Representations (ICLR 2026).**

https://openreview.net/forum?id=gBT9HqV5n3

[Conceived, Designed, Implemented and Written the manuscript (>95% contribution)**]**

[4] Raza, M. U., Chen, J., **Nawaz, A.**, Saeed, F., Leung, V. C. M., Li, J., Wang, Z. (2024). *IBATree: A Novel Method for Interpretable Cancer Cell Diagnosis Using Information Bottleneck Attribution.* **Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM)**, 3661–3666. **(CCF-B)**

https://ieeexplore.ieee.org/abstract/document/10821929

[Helped with mathematical structure and technical revision of the manuscript (30% contribution)**]**

[5] Raza, M. U., Chen, J., Wang, L., **Nawaz, A.**, Leung, V. C. M., Li, J. (2024). *Tree Regularization for Visual Explanations of Cancer Cell Classification.* **Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM)**, 3655–3660. **(CCF-B)**

https://ieeexplore.ieee.org/abstract/document/10822343

[Helped with mathematical structure and technical revision of the manuscript (30% contribution)**]**

[6] Iqbal, Z., Ji, F., Li, J., et al. (2023). *Composite Virtual Spatial Modulation and Its Diversity Enhancement.* **Proceedings of the IEEE International Conference on Communications (ICC)**, 320–325. **(CCF-C)**

[Helped with the technical revision of the manuscript (10% contribution)**]**

[7] Raza, M. U., **Nawaz, A.**, Liu, X., et al. (2023). *Visual Explanations: Activation-based Acute Lymphoblastic Leukemia Cell Classification*. **Proceedings of the IEEE International Conference on Development and Learning (ICDL)**, 61–66.

[Helped with mathematical structure and technical revision of the manuscript (30% contribution)**]**

[8] **Nawaz, A.**, Iqbal, Z., Ullah, S. (2015). *Performance Analysis of Supervised Image Classification Techniques for the Classification of Multispectral Satellite Imagery*. **Proceedings of the Fourth International Conference on Aerospace Science and Engineering (ICASE)**, 1–5.

[Conceived, Designed, Implemented and Written the manuscript (100% contribution)**]**