Selection Criteria

Jiradett Kerdsri, Ph.D.
for
University of New England

September 22, 2021

Knowledge and Education

1. A research higher degree at doctoral level in Computer Science, Data Science, or a related field.

In my education and work background, I have been experienced in all positions under the selection criteria:

- I have a master of computer science and a Ph.D. in engineering and technology (specialize in computer networking).
- I have worked as a research director at a data communication laboratory for 10 years on the topic of Big data, Data analytics (data science), Artificial Intelligence (AI), Machine (deep) Learning (mainly on Computer Vision), Opportunistic Networks, MANET, Tactical Network, etc.
- Currently, I am working as a chief data scientist leading the core-data scientist team to make use of micro/granular data and alternative data (Big Data) to augment insights found from aggregated data through the use of artificial intelligence, machine (deep) learning, text processing, and network theory.

2. Strong technical skills related to Computer Science or Data Science such as programming, data analysis and algorithm development, applied in the context of research and scholarship.

I have computer science technical skill experience from several research projects when I was a software developer and researcher for the domain of:

- **Programming**: Python, R, Java, PHP, JSP, C++, Ruby on Rails, etc.
- **Database**: MySQL, MS SQL Server, Oracle, Hadoop.
- **Cloud technologies**: AWS, GCP, Azure Cloud, Databricks.
- **Computer OS**: Linux, Unix, Windows, Mac.
- **Visualization software**: Tableau, Microsoft Power BI
- **Machine learning**: Convolutional Neural Networks, Time Series, Classification, Regression, etc.

Delivers and achieves results

3. A demonstrated capacity to consistently and successfully lead research projects and build productive and collaborative, cross-disciplinary research relationships in Computer Science or Data Science

I have been a director of a data communication laboratory and leading researcher project on many occasions with academic and industries parters such as:

- **Intelligence Data-Link Analysis for Checkpoint Operations**: This is a co-research project with the National Electronics and Computer Technology Center aiming to implement a graph database of analyzing terrorist activities developed on: Graph Database: Neo4j, Link Analysis: Python, Cypher (Neo4j graph query language), Graph Visualization: CytoScape, PostMan, WebApp2, JinJa2, Javascript, Bootstrap.
- **Common Operation Picture**: This research project is to develop a situational awareness application for the ministry of defense on C# and Google Map Enterprise with the Data Distribution Service (DDS) communication.
- **Unfit Banknote Classification**: This research project use Convolutional Neural Network (ConvNet/CNN) for modeling the machine learning classification to identify the unfit note for banknote production.
- **Computer Vision for Vehicle detection**: This research project is to develop a deep learning program to detect the vehicle (brand, model, color, and year) for CCTV using Python and TensorFlow.

Acts with Courage and Integrity

4. An established research track record in Computer Science, Data Science, or a related field, as evidenced by publications, research grants and postgraduate supervision.

I have been granted research funding in a couple of projects such as Intelligence Data-Link Analysis for Checkpoint Operations or Common Operation Picture. Additionally, I have been a chief of staff to organize an annual international conference on defense technology started in 2015:

- The First Asian Conference on Defence Technology, Huahin, Thailand, 23 – 25 April 2015.
- The Second Asian Conference on Defence Technology and The First Pacific Rim International Workshop on Defence, Safety, and Security Technology, Chiang Mai, Thailand, 21 – 23 January 2016.

- The Third Asian Conference on Defence Technology, Phuket, Thailand, 18 – 20 January 2017.
- The Fourth Asian Conference on Defence Technology, Tokyo, Japan, 29 November – 1 December 2017.
- The Asian Conference on Defence Technology 2018, Hanoi, Vietnam, 25 - 27 October 2018.

My publication records are as follows:

Journals

[1] Jiradett Kerdsri and Tawiwat Veeraklaew. "Visualization of Spatial Distribution of Random Waypoint Mobility Models". In: *Journal of Computers* 12.4 (2017), pp. 309–316.

[2] Jiradett Kerdsri and Komwut Wipusitwarakun. "Dynamic Rendezvous Based Routing Algorithm on Sparse Opportunistic Network Environment". In: *International Journal of Distributed Sensor Networks* 11.2 (2015), p. 819178. DOI: 10.1155/2015/819178.

[3] Jiradett Kerdsri and Komwut Wipusitwarkun. "DORSI : Data-wise Opportunistic Routing with Spatial Information". In: *Journal of Convergence Information Technology* 8.August (2013), pp. 91–103.

[4] Jiradett Kerdsri, Tawiwat Veeraklaew, and Settapong Malisuwan. "Randomized Replication based on Multilevel of Security for Opportunistic Network". In: *International Journal of Electronics and Electrical Engineering* 1.2 (2013), pp. 115–119. DOI: 10.12720/ijeee.1.2.115-119.

[5] Jiradett K. and Ornin S. "The Safety of WiMAX Insolid Propellant Rocket Production". In: *International Journal of Electronics and Communication Engineering* 5.6 (2011), pp. 747–749. ISSN: eISSN: 1307-6892. URL: https://publications.waset.org/vol/54.

Conference Proceedings

[1] Jiradett Kerdsri and Tawiwat Veeraklaew. "Opportunistic Network Informatics using Deep Learning". In: *2018 International Conference on Information and Social Science*. Apr. 2018.

[2] J. Kerdsri et al. "A long-range low-power wireless sensor network based on U-LoRa technology for tactical troops tracking systems". In: *2017 Third Asian Conference on Defence Technology (ACDT)*. Jan. 2017, pp. 32–35. DOI: 10.1109/ACDT.2017.7886152.

[3] J. Kerdsri and T. Veeraklaew. "Analysis of energy and mobility model on opportunistic routing algorithms". In: *2015 11th International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (QSHINE)*. Aug. 2015, pp. 60–65.

[4] Jiradett Kerdsri and Komwut Wipusitwarkun. "Data-wise Routing in Virtualization Environment (DRIVE) with multiple level of security for tactical network". In: *2012 IEEE/SICE International Symposium on System Integration (SII)*. IEEE, Dec. 2012, pp. 933–938. ISBN: 978-1-4673-1497-8. DOI: 10.1109/SII.2012.6427357.

[5] J. Kerdsri and K. Wipusitwarkun. "Data-wise Routing in Virtualization Environment (DRIVE) with multiple level of security for tactical network". In: *2012 IEEE/SICE International Symposium on System Integration (SII)*. Dec. 2012, pp. 933–938. DOI: 10.1109/SII.2012.6427357.

[6] J. Kerdsri and K. Wipusitwarkun. "Network virtualization for military application: Review and initial development of conceptual design". In: *2012 14th International Conference on Advanced Communication Technology (ICACT)*. Feb. 2012, pp. 61–66.

[7] Jiradett K., Ornin S., and Teeranun S. "The use of RFID in solid propellant rocket production management system". In: *publication descriptionWorld Academy Science Engineering and Technology*. July 2010.

Books

[1] *iPhone 5s/c Complete user guide*. SE-EDUCATION, 2013. ISBN: 9786167240343.

[2] *Samsung Galaxy S4 the Complete Manual*. SE-EDUCATION, 2013. ISBN: 9786167240329.

[3] *Samsung Galaxy Note 2*. SE-EDUCATION, 2012. ISBN: 9786167240312.

[4] *Max OS X Mountain Lion*. SE-EDUCATION, 2012. ISBN: 9786167240299.

[5] *Samsung Galaxy S3: How to use*. SE-EDUCATION, 2012. ISBN: 9786167240275.

[6] *Wiki, Knowledge Management System*. SE-EDUCATION, 2007. ISBN: 9789749560136.

[7] *SNMP over Wi-Fi wireless networks*. Storming Media, 2003. ISBN: 1423503287.

Delivers and achieves results

5. Evidence of high-quality teaching across all programs of study in Computer or Data science, and engagement with technology for innovative teaching, as evidenced by student evaluations and other relevant documentation.

I have been an invited lecturer on information technology at Hotel & Tourism Business School, Silpakorn International University for five years. During those years, I have been supervised many students for senior research projects for a course on information technology for the hospitality business.

6. Demonstrated experience in supervision of Honours and post-graduate research projects including PhD research.

I have been a mentor to supervise junior Ph.D. researchers at the data communication laboratory for 10 years.

Communicates with Influence

7. Excellent communication, teamwork and organisational skills, and the ability to relate well to colleagues and students.

During my career, I have been a project manager, a chief of conference organizing, a laboratory leader, and a guest lecturer that presenting strong communication, teamwork, and organizational skills.

Develops and Maintains Relationships

8. Demonstrated ability to undertake service roles within an academic discipline.

For my 20 years of experience with various industries and academics, I have been taken many roles to service each position such as project manager for the basic research project for defense technology institute, or chief data scientist to supervise junior data scientists at the Bank of Thailand.

Desirable

1. Experience in a tertiary teaching setting using flexible modes of course delivery.

I have been a guest lecturer for 5 years which experiencing in the on-site course and online course teaching.

2. Background and/or knowledge of applied Computer Science or Data science in agricultural, ecological, health or sports science disciplines.

At the Bank of Thailand, I have worked on many projects related to agricultural discipline such as the digital economy for sustainable agriculture project to implement the rice production model using MGBoost.