KONG VUNGSOVANREACH

AI RESEARCHER & SENIOR SOFTWARE ENGINEER

(+82) 10 4099 **** kv.sovanreach@gmail.com https://sovanreach.com
Cheongju-si, Chungcheongbuk-do, South Korea github.com/kvsovanreach
linkedin.com/in/kvsovanreach

Profile

AI Researcher and Senior Software Engineer with **7+ years** of software development experience and **5+ years** specializing in machine learning, deep learning, and computer vision. Currently pursuing a PhD in Big Data at Chungbuk National University, focusing on medical image analysis and deep learning applications. Published **18 peer-reviewed papers** including SCIE-indexed journals. Passionate about bridging the gap between cutting-edge research and real-world AI applications.

Research Highlights

18	10	8	5+
Publications	Journal Articles	Conference Papers	SCIE Indexed

Research Interests: Computer Vision, Deep Learning, Super-Resolution, Medical Image Analysis, Human Activity Recognition, and Medical AI Technology.

Employment

Research Assistant
Mar 2022 - Present

Chungbuk National University, South Korea

- Conducting PhD research on deep learning-based medical image analysis, focusing on dental panoramic radiographs and cardiovascular disease prediction
- Developed novel super-resolution integrated segmentation models achieving 15% improvement in periodontal bone loss detection accuracy
- Published 6 first-author papers in SCIE-indexed journals including PLoS One, Bioengineering, and PeerJ
- Collaborated with medical professionals to translate AI research into clinical applications

Research Assistant
Mar 2020 - Feb 2022

Chungbuk National University, South Korea

- Completed Master's research on ML workflow orchestration tools for automated model building pipelines
- Developed blockchain automation tools for Hyperledger Fabric network deployment using Ansible
- Applied statistical methods and machine learning to healthcare data analysis projects

IT Instructor
Mar 2019 - Feb 2020

Korea Software HRD Center, Cambodia

- Delivered technical training to 50+ students in Java Programming, Spring Framework, and Laravel
- Designed curriculum and hands-on projects for enterprise software development courses

Education

PhD in Big Data
Mar 2022 - Present

Chungbuk National University, South Korea

- Research Focus: Deep Learning, Computer Vision, and Medical Image Analysis

Master of Science in Big Data
Mar 2020 - Feb 2022

Chungbuk National University, South Korea

- Thesis: *Design and Implementation of a Workflow and Orchestration Tool for Building Machine Learning Model*

Bachelor of Science in Computer Science
Nov 2014 - Dec 2019

The University of Cambodia, Cambodia

Technical Skills

Programming: Python, Java, C++, Bash, R

AI/ML Frameworks: PyTorch, TensorFlow, Keras, OpenCV, Pandas, NumPy, Matplotlib

Web Development: Flask, Node.js, Spring Boot, REST APIs

Database & Tools: MySQL, MongoDB, PostgreSQL, Git, Docker, Jupyter

Selected Publications

[J]: Journal [C]: Conference * First/Corresponding Author

Journal Articles (10 total)

[J1]* Kong, V., et al. (2025). PIFR: A novel approach for analyzing pose angle-based human activity to automate fall detection in videos. *PLoS One*, 20(6), e0325253. **[SCIE]**

[J2] Shon, H. S., Kong, V., et al. (2022). Deep learning model for classifying periodontitis stages on dental panoramic radiography. *Applied Sciences*, 12(17), 8500. **[SCIE]**

[J3]* Kong, V., Kim, K. A., & Shon, H. S. (2025). Deep learning-based prognosis of major adverse cardiac events in AMI patients. *Osong Public Health and Research Perspectives*. **[SCIE]**

[J4]* Kong, V., et al. (2024). Integrating super-resolution with deep learning for enhanced periodontal bone loss segmentation. *Bioengineering*, 11(11), 1130. **[SCIE]**

[J5] Soeng, S., Kong, V., et al. (2024). A simple and efficient approach for extracting object hierarchy in image data. *IJACSA*, 15(8).

[J6]* Kong, V., et al. (2022). Recurrence risk prediction of acute coronary syndrome per patient. *PeerJ*, 10, e14348. **[SCIE]**

[J7]* Kong, V., et al. (2023). Automated tool for building Hyperledger Fabric blockchain networks using Ansible. *Int. Journal of Contents*, 19(2), 15-27.

[J8] Shon, H. S., Kong, V., et al. (2023). Improvement of kidney tumor stage classification using ML methods. *KIEE Journal*, 72(11), 1412-1419.

[J9] Aing, T., Kong, V., et al. (2021). A blockchain network construction tool and electronic voting application. *Journal of Big Data*, 6(2), 151-159.

[J10] Chan, S. H., Kong, V., et al. (2026). QA-SQL: Query-Augmented SQL generation using few-shot prompting. *PeerJ Computer Science*. (Accepted)

Conference Papers (8 total)

[C1]* Kong, V., et al. (2024). ML models for prediction of MACE in AMI patients. *KIEE Conference*, 2313-2314.

[C2]* Kong, V., et al. (2023). Web-based application for periodontitis stages classification. *KIEE Conference*, 1987-1988.

[C3] Soeng, S., Kong, V., et al. (2023). Automated detection of motorcycle rider without helmet. *KMIS Conference*, 896-898.

[C4]* Kong, V., et al. (2021). Comparison of classification techniques for imbalanced data. *KIEE Conference*, 1886-1887.

[C5-8] 4 additional conference papers on blockchain, dental image analysis, and smart factory data (2021-2022).

Professional Training

Advanced IT Professional Training

Oct 2018 - Feb 2019

Korea Software HRD Center, Cambodia

- iOS Development, Project Management, Agile Methodology

Basic IT Professional Training

Apr 2018 - Aug 2018

Korea Software HRD Center, Cambodia

- Java, Web Development, Spring Framework, Database Design

Languages

Khmer	Native	**English**	Professional
Korean	Beginner		