
PERSONAL DATA

Affiliation	School of Information System, Singapore Management University
Address	81 Victoria Street, Singapore 188065
Phone	(+65) 9715-7059
E-mail	chungkyun.han@gmail.com
Webpages	chungkyun-han.github.io; linkedin.com/in/chungkyun; github.com/jerryhan88

EDUCATION

Jan. 2016 ~	Ph.D. candidate, School of Information System Singapore Management University, Singapore
Feb. 2015	Master of Science in Engineering, Industrial Engineering Pusan National University, Busan, South Korea Thesis: An Online Algorithm for Personal Rapid Transit Dispatching and Routing
Feb. 2013	Bachelor of Science in Engineering, Industrial Engineering (Minor: Mathematics) Pusan National University, Busan, South Korea Thesis: The Production Planning of the Oil Refining Industry Considering Certified Emission Reduction

PUBLICATION AND TALK

Working paper (* The date reflects the moment when the latest draft was updated.)

- **HAN, Chung-Kyun**; CHENG, Shih-Fen; LAU, Hoong Chuin; and MISRA, Archan. Smart bundling for the crowdsourced last-mile logistics: The case with public transport users, March 2019.
- **HAN, Chung-Kyun**; CHENG, Shih-Fen; and LAU, Hoong Chuin. Scalable Crowdsourced Delivery Planning with Probabilistic Worker Mobility Patterns, May 2020.

Conference

- **HAN, Chung-Kyun**; and CHENG, Shih-Fen. An Exact Single-Agent Task Selection Algorithm for the Crowdsourced Logistics. *Proceedings of 29th International Joint Conference on Artificial Intelligence and the 17th Pacific Rim International Conference on Artificial Intelligence (IJCAI-PRICAI2020)*. Yokohama, Japan, July 11-17 2020. (To be appeared)
- **HAN, Chung-Kyun**; CHENG, Shih-Fen; and LAU, Hoong Chuin. Scalable Crowdsourced Delivery Planning with Probabilistic Worker Mobility Patterns. *The 9th International Conference on Logistics and Maritime Systems (LOGMS 2019)*. Singapore, August 14-16 2019.
- **HAN, Chung-Kyun**; CHENG, Shih-Fen; and VARAKANTHAM, Pradeep. A homophily-free community detection framework for trajectories with delayed responses. *Proceedings of the 18th International Conference on Autonomous Agents and Multiagent Systems (AAMAS-19)*. Montreal, Canada, May 13-17 2019. (Extended Abstract)
- **HAN, Chung-Kyun**; MISRA, Archan; and CHENG, Shih-Fen. Mobility-driven BLE transmit-power adaptation for participatory data muling. *IEEE 24th International Conference on Parallel and Distributed Systems (ICPADS)*. Singapore, December 11-13 2018.
- **HAN, Chung-Kyun**; KIM Baek-Hyun; and HA, Byung-Hyun. Online conflict-free dispatching and routing of personal rapid transits based on the nearest neighbor dispatching rule. *The 15th Asia Pacific Industrial Engineering and Management Systems Conference (APIEMS2014)*. Jeju, Korea, October 12-15 2014.
- KIM Junho; **HAN, Chung-Kyun**; HA, Byung-Hyun; and YUN Won Young. Scheduling of Athletic Shoe Assembly Lines Considering Learning Effect. *The 17th International Conference on Industrial Engineering Theory, Applications and Practice (IJIE2013)*. Busan, Korea, October 6-9 2013.

Workshop/Symposium

- **HAN, Chung-Kyun**; CHENG, Shih-Fen; LAU, Hoong Chuin; and MISRA, Archan. Smart Bundling for the Crowdsourced Last-Mile Logistics: The case with Public Transport users. *The 2018 International Symposium in Modelling and Simulation for Smart Systems (MSQ 2018)*. Singapore, October 18- 2018.

- LIN, Larry; **HAN, Chung-Kyun**; CHENG, Shih-Fen; LAU, Hoong Chuin; and MISRA, Archan. Smart Bundling for Crowdsourced Package Deliveries. *6th INFORMS Transportation Science and Logistics Society Workshop (TSL-18)*. Hong Kong, January 8-10 2018.
- KWON, Bo bae; **HAN, Chung-Kyun**; and HA, Byung-Hyun. An Online Dispatching Algorithm Based on Nearest Neighbor Heuristics for Personal Rapid Transit Systems. *2014 Decision Analysis Symposium*. Taipei, Taiwan, January 18 2014.

Journal

- **HAN, Chung-Kyun**; KIM, Baek-Hyun; JEONG, Rag-Gyo; and HA, Byung-Hyun. A Dispatching and Routing Algorithm for Personal Rapid Transit by Considering Congestion. *The Transactions of the Korean Institute of Electrical Engineers*, vol. 64, no. 11, pp. 1578-1586, 2015.
- **HAN, Chung-Kyun**; KWON, Bo bae; KIM, Baek-Hyun; JEONG, Rag-Gyo; LEE, Hoon; and HA, Byung-Hyun. An Online Personal Rapid Transit Dispatching Algorithm Based on Nearest Neighbor Dispatching Rule. *Journal of the Korea Society for Simulation*, vol. 23, no. 4, pp. 97-109, 2014.

HONOR & AWARD

- Best paper award, 2014 Decision Analysis Symposium, Society for Excelling Enterprises and Decisions, Feb. 2014.
- Participation Award, Start-up competition, Pusan National University, Nov. 2012.
- Second Prize, Korea SCM Competition, Korean society of Supply Chain Management, Jun. 2012.
- Participation Award, Smart phone application development, Pusan National University, Feb. 2011.

PATENT

- PATH PLANNING DETERMINATION AND ALLOCATION METHOD OF DRIVERLESS GROUND VEHICLE, South Korea Patent 1017405290000, issued May 22 2017.

EXPERIENCE

Jan. 2016 - Current	Full-Time Ph.D. Student Fujitsu-SMU Urban Computing and Engineering Corp. Lab., Singapore Management University Singapore
Mar. 2015 - Dec. 2015	Junior Researcher Institute of Logistics Innovation and Networking, Pusan National University Busan, South Korea
Mar. 2013 - Feb. 2015	Full-Time Master's Student Information & Knowledge Engineering Lab., Pusan National University Busan, South Korea
Mar. 2010 - Feb. 2013	Student Researcher Information & Knowledge Engineering Lab., Pusan National University Busan, South Korea
Apr. 2008 - Feb. 2010	Military Service Republic of Korea Army Gyeonggi, South Korea
Dec. 2007 - Mar. 2008	Student Researcher Information & Knowledge Engineering Lab., Pusan National University Busan, South Korea

SKILL

- Optimization Technique; Design & Development
 - Exact Approach: Branch-and-Cut, Branch-and-Price, Branch-and-Bound
 - Efficient Algorithm: Column Generation, Lagrangian Relaxation, Metaheuristics
 - Mathematical Modeling: Vehicle Routing Problem, Production Planning Problem
 - Simulation

- Data Analysis
 - Web Crawling
 - Data Preprocessing: Geospatial Data, Big Data
 - Data Visualization
- Programming
 - Python (Expert): NumPy, SciPy, Pandas, Matplotlib, PyQt, GeoPy, Selenium, ... etc.
 - C/C++ (Advanced) & Java (Intermediate): Algorithm Development and Concurrent Programming
- Software
 - Optimization Solver: CPLEX, Gurobi
 - Documentation: Latex, MS office, G Suite
 - System Development: Git, Amazon Web Services, Linux/Unix
- Language: English (Fluent), Korean (Native)

PROJECT

(* marked projects are initiated by personal interests.)

Nov. 2019 - Current	Tools for quantitative investing* Function <ul style="list-style-type: none"> • Data crawling and collection with APIs • Market monitoring & Email notification • Backtesting • Chart drawing Investment strategy <ul style="list-style-type: none"> • Relative Strength Index • Asset Allocation based on Dual Momentum
Oct. 2017 - Current	Task recommendation systems for last-mile logistics with crowdsourcing Output <ul style="list-style-type: none"> • Mathematical models (implemented in Python with Gurobi API, in C/C++ with CPLEX API) • Recommendation algorithms (implemented in Python with Gurobi API, in C/C++ with CPLEX API) • Visualizer (implemented in Python) • Publication (one conference paper) Related organization <ul style="list-style-type: none"> • Fujitsu-SMU Urban Computing and Engineering Corp. Lab
Jun. 2019 - Aug. 2019	Tools for comparing prices of flight tickets Function <ul style="list-style-type: none"> • Data crawling and collection with APIs • Data Analysis Related organization <ul style="list-style-type: none"> • Skyscanner
Jul. 2018 - Nov. 2018	Reviewing the Korean version of ICDL Computing (Python) exam Related organization <ul style="list-style-type: none"> • Korea Productivity Center
Aug. 2017 - Dec. 2017	Simulation study on data muling of IoT sensors through mobile crowdsourcing in a campus Output <ul style="list-style-type: none"> • Algorithm for deciding the transmission power of IoT devices (implemented in Python) • Simulator and Visualizer (implemented in Python) • Publication (one conference paper) Related organization <ul style="list-style-type: none"> • Living Analytics Research Centre
Jan. 2016	Data Analysis on log datasets from a taxi company

- Jun. 2017	Output <ul style="list-style-type: none"> • Analysis report on quantifying the impact of information boards • Community detection algorithm based on series of statistical models • Publication (one conference poster) Related organization <ul style="list-style-type: none"> • Fujitsu-SMU Urban Computing and Engineering Corp. Lab
May 2013 - Dec. 2016	Decision support system for Personal Rapid Transit operations Output <ul style="list-style-type: none"> • Algorithm for dispatching and routing vehicles (implemented in Python) • Simulator and Visualizer (implemented in Python) • Publication (two journal paper, one conference paper) and Patent (one case) Related organization <ul style="list-style-type: none"> • Information & Knowledge Engineering Lab. • Korea Railroad Research Institute • Total Soft Bank Ltd.
Nov. 2015 - Dec. 2015	Tool for monitoring foreign currency rates * Function <ul style="list-style-type: none"> • Data collection • Charting • Email notification
Feb. 2015 - Mar. 2015	Evaluation of vehicles' operation in a container terminal Output <ul style="list-style-type: none"> • Visualizer and Performance reviewer (implemented in Python) Related organization <ul style="list-style-type: none"> • Information & Knowledge Engineering Lab. • CyberLogitec Co., Ltd.
Feb. 2014 - Oct. 2014	Simulation study for evaluating operations of forklifts in a shipbuilding yard Output <ul style="list-style-type: none"> • Simulator and Visualizer (implemented in Python) Related organization <ul style="list-style-type: none"> • Information & Knowledge Engineering Lab. • Daewoo Shipbuilding & Marine Engineering Co. Ltd.
May 2013 - Nov. 2013	Production planning in assembly lines for athletic shoes Output <ul style="list-style-type: none"> • Mathematical model (implemented in Python with CPLEX OPL) • Publication (one conference paper) Related organization <ul style="list-style-type: none"> • Information & Knowledge Engineering Lab. • Chang Shin Inc.
Mar. 2010 - Feb. 2013	Various research and development projects Output <ul style="list-style-type: none"> • Algorithms for planning various operations in a container terminal (implemented in Python) • Simulator and Visualizer (implemented in Python) Related organization <ul style="list-style-type: none"> • Information & Knowledge Engineering Lab.

LICENSE & CERTIFICATION

- Amazon Web Services Cloud Practitioner
 - Issuing authority: Amazon Web Services (AWS)
 - Issued date: May 14 2020
 - Expiration date: May 14 2023
 - Credential ID: 4TQR7221GE4QQEWH
- Rescue Diver
 - Issuing authority: Professional Association of Diving Instructors
 - Issued date: Jun. 06 2018 (no expiration date)

-
- Credential ID: 1806AW6941
 - Kayaking Proficiency Personal Skill STAR Award
 - Issuing authority: Singapore Canoe Federation
 - Issued date: Apr. 15 2018 (no expiration date)
 - Credential ID: SCF 1029906
 - CPR/AED/First Aid
 - Issuing authority: Emergency First Response
 - Issued date: Oct. 01 2016
 - Expiration date: Oct. 01 2018
 - Credential ID: 1610AY3573
 - Advanced Open Water Diver
 - Issuing authority: Professional Association of Diving Instructors
 - Issued date: Nov. 20 2015 (no expiration date)
 - Credential ID: 1511AX3138
 - Open Water Diver
 - Issuing authority: Scuba Diving International
 - Issued date: Jul. 15 2015 (no expiration date)
 - Credential ID: 655013
 - Driver's License
 - Issuing authority: Busan Metropolitan Police Agency
 - Issued date: Feb. 19 2014
 - Expiration date: Dec. 31 2024
 - Credential ID: 07-601739-10

OTHER ACTIVITY

- Organizer, Wine gathering in Singapore, Mar. 2018 - Current.
- Organizer, Global IT Professionals in Singapore (gathering for sharing information and networking), Jan. 2017 - Current.
- Volunteer work, The 3rd Busan Maru International Music Festival, Sep. 2012
- Reporter, The Hyowon Herald (English newspaper in Pusan National University), Mar. 2007 - Feb. 2008.

INTEREST

- Advanced Optimization Technique
- Data Analysis & Visualization
- Last-mile Logistics
- Crowdsourcing
- Cloud Computing
- Quantitative Investing