• **Title:** Artificial intelligence (AI)-driven last-mile logistics

• **Modality:**
  - Half-day (e.g., 3 hours plus breaks)

• **Scope (no longer than 4 pages), including the following sections:**
  - **Motivation and general scope**

  In this special session, we focus on both classical and emerging AI methods for last-mile logistics. Decision makers often have to make decisions in an uncertain environment and confront conflicting goals, for example, improving efficiency (and customer service level) versus reducing costs/emissions. In addition, lack of robustness of system-generated solutions would discourage decision makers to apply these solutions in real world cases.

  To provide executable and understandable solutions in real-world decision-making environment, we encourage and expect to produce high quality research in traffic disruption forecasting, vehicle routing in an uncertain environment and a combination of forecasting and planning. Interesting topics include but not limited to traffic disruption forecasting and anomaly detection based on historical and real-time monitoring data, multi-objective optimization, robust optimization, stochastic optimization, simulation-based methods, learning-based methods, and explainable artificial intelligence methods in last-mile logistics.

  - **Relevance to the ITS community**

    It is one of the core topics of ITS community.

  - **Topics of interest for the special session**

    This session aims to gather researchers in the field of artificial intelligence in last-mile logistics. Interesting topics include but not limited to

    - multi-objective optimization for last-mile delivery
    - hyperparameter optimization for last-mile logistics
    - learning-based methods for vehicle routing problems
stochastic/robust optimization in last-mile logistics in an uncertain environment
data-driven modeling/optimization for on-demand delivery
approximate dynamic programming for vehicle routing problems
explainable artificial intelligence in last-mile logistics
predictive online optimization for on-demand delivery
online vehicle routing in crowdsourced delivery
behavioral operations research in attended home delivery

- **Organizers (names, affiliations, emails, and short bio):**

  **Name: Yingjie Fan**
  Affiliation: Leiden University
  Email: y.fan@liacs.leidenuniv.nl
  **Bio:**
  Yingjie Fan is an assistant professor at the Leiden Institute of Advanced Computer Science (LIACS), Leiden University. She received his PhD degree from the University of Hamburg in 2017. She was a postdoctoral researcher at Rotterdam School of Management (RSM), Erasmus University from 2017 to 2020. Her expertise is in stochastic programming, multi-objective optimization and robust optimization for supply chain management and last-mile logistics. She focuses on optimizing transportation and production plans in an uncertain environment. She also works on behavioral operations research.

  **Name: Thomas Bäck**
  Affiliation: Leiden University
  Email: T.H.W.Baeck@liacs.leidenuniv.nl
  **Bio:**
  Thomas Bäck is a computer scientist who combines the fields of (multi-criteria) optimization and machine learning in both directions, optimization for machine learning and vice versa. He does this with a strong emphasis on real-world applications, in areas such as engineering, predictive maintenance, health, and transportation. Thomas is vice scientific director of the Leiden Institute of Advanced Computer Science and was appointed member of the KNAW in 2021, the European Academy of Sciences and Arts in 2022, and IEEE Fellow in 2022. In 2015, he received the IEEE Evolutionary Computation Pioneer Award.

- **Intended audience and expected attendance of the special session:**
  Expect to have 6-8 presentations and about 30 audience.

- **Materials and equipment needed for the special session:**
  A regular venue with a projector and a screen.

- **Contact details of the proposers (email, postal address, etc):**
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