

CSE523 - Machine Learning

Weekly Report 4

**Classification of Drivers based on their Driving Patterns**

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We studied the inD Dataset Paper and made some key pointers based on it:

**1. Objective:** The inD Dataset aims to facilitate research in traffic behavior analysis, automated driving systems, and predictive modeling by providing high-resolution trajectory data of road users in urban intersections.

**2. Approach:** Data was collected using drones to ensure a comprehensive bird's-eye view, minimizing occlusions and capturing naturalistic behavior of participants in traffic.

**3. Dataset Details:** Contains over 11,500 trajectories from four different urban intersections in Germany, representing various road users like vehicles, cyclists, and pedestrians.

**4. Data Collection Method:** High-quality drone cameras were used for recording, enabling the capture of large areas with detailed accuracy.

**5. Resolution and Accuracy:** The dataset provides high-resolution spatial and temporal data, with positions recorded at 25 Hz and high accuracy due to the vantage point of drones.

**6. Annotations:** Each trajectory is meticulously annotated, including road user type, individual movements, and interactions within the traffic environment.

**7. Use Cases:** Intended for a wide range of applications including, but not limited to, traffic flow analysis, safety assessment, and development of predictive algorithms for autonomous driving systems.

**8. Public Availability:** The inD Dataset is made publicly available to the research community to support and encourage advancements in traffic safety, analysis, and autonomous vehicle technologies.

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### **References:**

J. Bock, R. Krajewski, T. Moers, S. Runde, L. Vater and L. Eckstein, "The inD Dataset: A Drone Dataset of Naturalistic Road User Trajectories at German Intersections," 2020 IEEE Intelligent Vehicles Symposium (IV), Las Vegas, NV, USA, 2020, pp. 1929-1934, doi: 10.1109/IV47402.2020.9304839. keywords: {Roads;Trajectory;Drones;Predictive models;Safety;Cameras;Automobiles}(ITSC), Maui, HI, USA, 2018, pp. 2118-2125, doi: 10.1109/ITSC.2018.8569552. keywords: {Roads;Sensors;Drones;Trajectory;Safety}