

LISHA Internal Workshop 2026.1

July 15, 2026, Florianópolis, Brazil

As we conclude the first semester of research activities at LISHA, the LISHA Internal Workshop 2026/1 will be hosted at the [Center for Innovation, Research, Entrepreneurship and Technology at the Federal University of Santa Catarina \(InPETU hub/UFSC\)](#). The workshop aims to bring together researchers, students, and collaborators to present the work carried out during the first months of the year across the laboratory's projects. Beyond showcasing technical progress and research outcomes, the event provides an opportunity to exchange knowledge, discuss challenges, share ideas, and strengthen collaboration among the different project teams.

Throughout the workshop, participants will present the main activities, milestones, and ongoing developments related to the following LISHA projects:

- **AutoSF — Responsible and Intelligent Fleet Management**
- **AutoSM — Optimized Vehicle Assistance**
- **AutoDL — Secure and Privacy-Aware Data Lake for Vehicle Data Storage and Processing**
- **Auto5G — Intelligent Vehicle Telemetry and Supervision System**
- **IASE — Intelligent Acquisition and Analysis System for ECUs**

Topics of Interest

Preliminary Program

July 15

Time	Title	Presenter
09:00	Opening	Guto
09:10	SDAV Simulation Server	Leonardo Passig Horstmann, José Luis Conradi Hoffmann
09:40	SmartData Model Parsing, Data Conversion and Importing	Leonardo Passig Horstmann
10:00	Distributed Components in the Data Lake Pipeline	Rodrigo Gonçalves, Davi Machado
10:10	SmartData Adapter for IoT Platform Interests in ECU	João Lucas Medina Kormann
10:20	Integration of Eco Routing into the Data Lake Pipeline	Rodrigo Gonçalves, Gustavo Dangelo
10:30	Coffee Break	
10:45	Music Notation: From Monks to Real-Time MIDI	João Gabriel Feres
11:00	Heuristic Path Planning over Graphs of Convex Sets	Matheus Wagner
11:10	Autonomous Vehicle Perception: Evaluating Classical vs. Deep Learning Approaches for Lane Tracking	Pedro Garbin Gonçalves
11:20	Navigable Space Detection and Discretization	Davi Francisco Fenker
11:30	RSS-Based Decision Making for Autonomous Driving	Lucas de Souza Moro

Time	Title	Presenter
11:40	Dynamical Analysis of Vehicle Simulation	Josafat Ribeiro Leal Filho
11:50	Adaptive Stability Envelope using Model Predictive Control	Luiz Fernando Pastuch
12:00	AEB @ SDAV & NCAP Validation	Murillo Cordeiro Guindani
12:10	Implementation of Drive-by-Wire in the FEVER Vehicle	Bruno Oreques Fonseca
12:20	Algorithm for Edge Simplification in Graph Construction	João Pedro Kuhn
12:30	Lunch Break	
14:10	Challenges in Data Exploration and Predictive Modeling with Real-World Data Constraints	Enzo Nicolás Spotorno Bieger
14:20	A Comparison of Machine Learning Libraries for Embedded Systems	Gabriel Martins
14:30	SmartData-Based Battery Ranking for Predictive Vehicle Maintenance	Bernardo Amaral Petrassi
14:40	Wavelet Analysis of Seismic Signals	Manuela Skrsypcsak Kist
14:50	A Pos Collision/Crash detection decision making proposal with Emergency calls to health services, tow truck services, and security	Pedro H. Cavalcante Sá
15:00	Enabling Light Weight Secure ETSI Cooperative Services	Emanuely Poncio do Amaral
15:10	A Machine Mode Hypervisor for RISC-V	Ilton Pfleger Junior
15:20	Linux Kernel Tuning for Predictable SmartData Execution	Breno da Silva Pereira
15:30	Coffee Break	
15:45	DRAM Bank-Aware Memory Allocation for Embedded Real-Time Virtualization	Eduardo Bischoff Grasel
15:55	IAES: Intelligent (I) Run-Time Monitoring and Actuation Architecture (A) for Embedded (E) Systems (S)	Rafael Canal
16:05	Steganography and Riddle Solving: An Overview About Computer Forensics	Bruno Bianchi Pagani
16:20	Ensuring Data Freshness in Multi-Rate Task Chains Scheduling	José Luis Conradi Hoffmann
16:35	Final Remarks	Guto
18:00	Confraternização	