

INTERESTS	<b>Autonomous Driving   Deep/Machine Learning   Reinforcement Learning   Computer Vision</b>
EDUCATION	<ul style="list-style-type: none"> <li>• <b>Ph.D. Computer Engineering, University of Central Florida</b> (2018-2022) <ul style="list-style-type: none"> <li>- Advisor: <b>Dr. Yaser P. Fallah</b></li> <li>- Research: Connected and Autonomous Vehicles   Deep Learning   Reinforcement Learning</li> </ul> </li> <li>• <b>M.Sc. Computer Engineering, University of Sao Paulo</b> (2015-2017) <ul style="list-style-type: none"> <li>- Research: Computer Vision, Image Processing</li> <li>- Thesis: Automatic text recognition process in generic identification documents</li> </ul> </li> <li>• <b>B.Sc. Electrical Engineering, Technological University Jose Antonio Echeverria (2009-2014)</b> <ul style="list-style-type: none"> <li>- Honors College Graduate, Summa Cum Laude</li> <li>- Thesis: Design of a portable electronic nose based on MOS sensors</li> </ul> </li> </ul>
WORK EXPERIENCE	<ul style="list-style-type: none"> <li>• <b>Connected &amp; Autonomous Vehicle Research Lab, Research Assistant</b> (2018-2022) <ul style="list-style-type: none"> <li>- Contributed to projects supported by Hyundai, Toyota, Ford, and NSF</li> <li>- Lead a group of graduate students on a project for Hyundai-Kia to develop a new architecture for CAVs safety applications, as result we increased robustness to communication failure (patent filed).</li> </ul> </li> <li>• <b>HRL Laboratories, Autonomous Driving Research Intern</b> (2020,2021) <ul style="list-style-type: none"> <li>- Research in Computer Vision, particularly 3D object detection based on Lidar and images. I tested, trained, and tuned different architectures in different datasets and improved the autonomous vehicle pipeline for object detection (patent filed).</li> </ul> </li> <li>• <b>Laboratory of Architecture and Computer Networks, Software Engineer</b> (2017-2018) <ul style="list-style-type: none"> <li>- Backend developer, Computer Vision, Face and Text Recognition</li> <li>- Developed a automated system (server-side solution) for extracting information from identification documents, that led to accuracy improvements and scientific publications.</li> </ul> </li> <li>• <b>Laboratory of Architecture and Computer Networks, Research Assistant</b> (2015-2017) <ul style="list-style-type: none"> <li>- I developed an automatic text recognition system for generic identification documents.</li> </ul> </li> </ul>
SKILLS	<ul style="list-style-type: none"> <li>• <b>Software:</b> Python (+TensorFlow, Keras, Torch, OpenCV, OpenAI Gym), C/C++ (+TensorRT), MATLAB (+Simulink), Git, ROS, SUMO Simulator, Java, Docker, Agile Software Development.</li> <li>• <b>Technical Skills:</b> Electronic Hardware, Digital Image and Signal Processing, Computer vision, Machine Learning. Strong hands-on skills in product design, prototyping and test engineering.</li> <li>• <b>Udacity Self-driving Car Engineer Nano-degree</b></li> <li>• <b>Eastern European Machine Learning summer school (EEML 2021)</b></li> </ul>
HONORS AND AWARDS	<ul style="list-style-type: none"> <li>• <b>University of Central Florida Centsible Knights Scholarship</b> (2021)</li> <li>• <b>Diversity in Vehicular Technology Society NSF Grant</b> (2019)</li> <li>• <b>University of Central Florida Presentation Fellowship</b> (2019)</li> <li>• <b>CNPq Fellowship, University of Sao Paulo</b> (2015)</li> <li>• <b>Inducted into the Honor Group, Technological University Jose Antonio Echeverria</b> (2014)</li> <li>• <b>Best Work Award from the Electronic and Computer Commission, IMRE</b> (2014)</li> <li>• <b>Best paper award in 29th Scientific Student Conference of Electronics</b> (2014)</li> <li>• <b>Bronze medal in the National Biology Contest</b> (2007)</li> <li>• <b>Silver medal in the Regional Mathematics Contest</b> (2006)</li> </ul>

SELECTED  
PUBLICATIONS

- "Towards Learning Generalizable Driving Policies from Restricted Latent Representations", *IEEE Transactions on Intelligent Vehicles (IEEE TITS)* [submitted]
- "Social coordination and altruism in autonomous driving", *IEEE Transactions on Intelligent Vehicles (IEEE TITS)* [submitted]
- "Robustness and Adaptability of Reinforcement Learning based Cooperative Autonomous Driving in Mixed-autonomy Traffic", *IEEE Open Journal on Intelligent Vehicles (IEEE OJ-ITS)* [submitted]
- "Impact of communication loss on mpc based cooperative adaptive cruise control and platooning", *IEEE Vehicular Networking Conference (VTC 2021)*
- "Cooperative Autonomous Vehicles that Sympathize with Human Drivers", *2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2021)*
- "Altruistic Maneuver Planning for Cooperative Autonomous Vehicles Using Multi-agent Advantage Actor-Critic", *2021 ADP3 workshop at IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2021)*
- "A Maneuver-based Urban Driving Dataset and Model for Cooperative Vehicle Applications", *IEEE Connected and Automated Vehicles Symposium (CAVS 2020)*
- "Dynamic Object Map based architecture for robust CAV applications", *SAE WCX 2020*
- "Connected and Autonomous Vehicles in the Deep Learning Era: A Case Study on Computer-Guided Steering", *Handbook of Pattern Recognition and Computer Vision 2020*
- "Representing Realistic Human Driver Behaviors using a Finite Size Gaussian Process Kernel Bank", *IEEE Vehicular Networking Conference (VNC 2019)*
- "Real-Time Hardware-In-the-Loop Emulation Framework for DSRC-based Connected Vehicle Applications", *IEEE Connected and Automated Vehicles Symposium (CAVS 2019)*
- "Controlling Steering Angle for Cooperative Self-driving Vehicles utilizing CNN and LSTM-based Deep Networks", *IEEE Intelligent Vehicles Symposium (IV 2019)*
- "Text Recognition in Images, ISBN 978-620-2-19079-4", *Book 2018*
- "Automatic Text Recognition in Web Images", *ACM Brazilian Symposium on Multimedia and Web (WebMedia 2017)*
- "Mechanism for Structuring the Data from a Generic Identity Document Image using Semantic Analysis", *ACM Brazilian Symposium on Multimedia and Web (WebMedia 2017)*
- "A process for text recognition of generic identification documents over cloud computing", *International Conference on Image Processing and Computer Vision (IPCV 2016)*
- "Application of an Electronic Nose Coupled to a Gas Analyzer for Measuring Ammonia", *Chemical Engineering Transactions 2016*
- "Development an Electronic Nose to Identify and Classify Odors from Beverages", *Chemical Engineering Transactions 2016*

PRESENTATIONS

- Invited talk: "Text recognition improvement using a novel iterative method and super-resolution", WPGEC, Brazil, 2016
- Invited talk: "A process for text recognition of generic identification documents over cloud computing", WPGEC, Brazil, 2016

VOLUNTEER  
WORK

- Subcommittee chair, Equity, Diversity, and Inclusion (EID) Task Force, College of Engineering and Computer Science, University of Central Florida, USA (2020, 2021,2022)
- LatinX in AI (LXAI) Workshop volunteer chair: ICCV 2021, CVPR 2022. LXAI CVPR and ICML 2021 general volunteer.
- Reviewer for the *IEEE Transactions on Vehicular Technology (TVT)*, *IEEE Vehicular Technology Magazine (VTM)*, *IEEE Vehicular Technology Conference (VTC)*.
- Member of Institute of Electrical and Electronics Engineers (IEEE); IEEE Communications Society (IEEE ComSoc) and Brazilian Computer Society (SBC)
- Volunteer teacher in the course introduction to robotics for elementary school students (2012, 2013 ,2014)

REFERENCES

**Yaser P. Fallah**  
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