American Center for Mobility
Job Description

Job title: Vehicle Test Support Engineer

Location: Willow Run, Ypsilanti, MI

Reports to Technical Director

The American Center for Mobility (ACM) is a global development center for transforming the way industries advance safe, sustainable, and secure mobility technologies. ACM offers: an Advanced Mobility Proving Ground with test environments featuring specialized infrastructure, equipment, facilities and resources; An EV Charging testbed for testing EV charger performance; An innovation and technology campus with an industrial tech park for the co-location of mobility companies; Event and demonstration areas for showcasing mobility technologies and convening industry activities. The American Center for Mobility is open to private industry, start-ups, government, standards bodies, and academia.

Position:

ACM is seeking an experienced vehicle test support engineer to support projects on ADAS and CAV as part of our safe, secure, and sustainable transportation efforts.

Overview:

As a Vehicle Test Support Engineer specializing in the intersection of Vehicle Propulsion and Connected Autonomous Vehicles (CAV) technologies, you will be instrumental in determining the performance and safety of cutting-edge automotive systems. Working with internal and external partners, you will support/lead the planning, execution, and support analysis of comprehensive test programs to validate the functionality and effectiveness of in-vehicle technologies contributing to the development of next-generation vehicles equipped with intelligent automation capabilities.

This is also an ideal job for a hands-on engineer with diverse interest and experience. Given ACM’s broader focus on safe, secure and sustainable mobility technologies, this position may allow exposure and potential opportunities to both corporate and Govt funded projects in ADAS, CAV, Cybersecurity, and EV.

Responsibilities:

1) Test Plan Documentation and Development: Collaborate with cross-functional teams to develop comprehensive test plans and protocols to evaluate the functionality, performance, and safety of control and optimization enabled by ADAS/CAV technologies, encompassing a range of real-world driving scenarios and simulated environments. Plans should outline test objectives, methodologies, and success criteria. Ensure that test plans are well-documented and readily accessible to team members.

2) Test Execution: Manage and conduct thorough testing activities, including functional testing, and scenario-based testing, to assess system behavior and performance under various conditions and validate adherence to specifications and requirements. Utilize test management tools to maintain an up-to-date record of testing progress.

3) Data Collection and Analysis: Collect, analyze, and interpret test data using advanced measurement tools and techniques, leveraging statistical analysis and data visualization methods to derive meaningful insights and identify performance. Summarize findings in clear and concise reports and presentations, highlighting key metrics, observations, and recommendations for improvement.

4) Issue Identification and Resolution: Identify, troubleshoot, and resolve issues encountered during testing, collaborating closely with engineering teams to diagnose root causes, implement corrective actions, and verify effectiveness through iterative testing cycles.

5) Cross-Functional Collaboration: Collaborate in internal and external cross-functional teams including software engineers, hardware engineers, systems integrators, and project managers to align testing efforts.
with project goals, drive continuous improvement, and support advances in testing methods and technology advancement.

6) Tracking and Progress Reporting: Regularly update project stakeholders on testing progress, presenting status reports, metrics dashboards, and visualizations to communicate key insights effectively. Provide timely updates on milestones achieved, risks identified, and any potential impact on project timelines.

7) Stakeholder Communication: Foster open communication channels with internal and external stakeholders. Solicit feedback, address concerns, and maintain alignment on testing priorities and objectives.

Skills and Qualifications:

- Bachelor’s degree in mechanical or electrical engineering, computer science, or related field.
- 2 to 4 years of related proven experience in automotive testing on closed track and/or on road, with a focus on vehicle propulsion performance, energy utilization, and ADAS/CAV Technologies.
- Proficient comprehension of vehicle instrumentation, encompassing differential GPS, IMUs (Inertial Measurement Units), and onboard energy measurement systems.
- Thorough understanding of vehicle CAN bus infrastructure and logging mechanisms.
- Knowledge of Cellular Vehicle-to-Everything (CV2X) technology, including On-Board Units (OBUs), Roadside Units (RSUs), and their communication protocols for signalized intersections. Additionally, adept understanding of Vehicle-to-Vehicle (V2V) communication standards.
- Excellent analytical and problem-solving skills, with the ability to interpret complex data sets, identify patterns, and diagnose technical issues.
- Effective communication skills, with the ability to collaborate with diverse stakeholders and convey technical concepts clearly and concisely.
- Experience and proficiency in MS Excel or related tools for test documentation, analysis, and assessment.
- Experience with programming languages (e.g., MathWorks-MATLAB, Python, and/or C/C++) for data analysis.
- Strong commitment to safety, quality, and continuous improvement in all aspects of work.

Desired Qualifications:

- Familiarity with sensor technologies (e.g., LiDAR, radar, cameras), perception algorithms, and vehicle dynamics.
- Proficiency in testing methodologies, tools, and techniques, such as scenario simulation, test automation, and data analysis software.
- Familiarity with vehicle and traffic simulation tools (e.g., VTD, CarMaker, Vissim, CARMA, …)
- Familiarity with dSPACE in-vehicle systems including MicroAutoBox
- Familiarity with ROS Autoware.AI or other AV platforms.
- Master’s degree

Additional Requirements

Qualified candidates must be legally authorized to be employed in the United States. The employer does not anticipate providing employment related work sponsorship for this position (e.g., H-1B status)

ACM is an equal opportunity employer that celebrates diversity and is committed to creating an inclusive environment for all employees. ACM does not discriminate on the basis of race, religion, color, sex, gender identity, sexual orientation, age, disability, national origin, veteran status or any other basis covered by appropriate law. All employment is decided on the basis of qualifications, merit, and business need.