

Mansour Mancini

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PROFESSIONAL SUMMARY

Accomplished Software and Systems Engineering Leader with over 7 years of experience in optimizing the developer experience (DevEx) and driving process improvements for large-scale embedded systems. Proven ability to lead cross-functional teams, reduce development inefficiencies, and deliver high-quality software on schedule. Combines hands-on expertise in C, Python, and HIL/SIL testing with a strategic focus on enhancing engineering tools, workflows, and architectures.

TECHNICAL SKILLS

Programming Languages: C, Python, MATLAB, Simulink, R, VBScript, DIAdem

Tools & Technologies: Azure DevOps, Git, Subversion, Mercurial, Jenkins, CANalyzer, TractorSim

Methodologies: Developer Experience (DevEx), Product Verification & Validation (PV&V), Systems Engineering, Continuous Improvement (CI), Root Cause Analysis, Hardware-in-the-Loop (HIL), Software-in-the-Loop (SIL), Model-in-the-Loop (MIL)

PROFESSIONAL EXPERIENCE

John Deere

Software Development Enablement Lead (May 2025 – Present)

- Partner with software engineers to identify and resolve inefficiencies in tools, processes, and architectures.
- Champion the adoption of new technologies and tools to enhance the embedded developer experience.
- Conduct and analyze biannual developer surveys to inform strategic improvements to the software development lifecycle.

Supervisor, Crop Care Software PV&V Engineering (June 2023 – May 2025)

- Led a team of 6-10 PV&V engineers in the on-time delivery of high-quality software for planting, seeding, and tillage equipment, including key autonomous vehicle projects.
- Achieved a 30% reduction in overtime and a 90% reduction in weekend work by optimizing resource planning and implementing data-driven burndown charts.
- Reduced software release errors by 25-30% by transitioning from informal handoffs to a structured release process with formal audits.
- Doubled testing capacity during a critical delivery cycle by orchestrating a cross-departmental, two-shift testing effort to ensure on-time project completion.
- Reduced time spent managing test schedules by 90% by developing and implementing a shared scheduling system for Hardware-in-the-Loop (HIL) environments.
- Cut onboarding time for new engineers by 50% through targeted mentoring and facilitating cross-platform training to improve team flexibility.

Embedded Software Engineer (June 2022 – June 2023)

- Spearheaded the team's adoption of the Rally Agile management tool, serving as Scrum Master within the first month of joining.
- Improved team productivity and documentation quality by designing standardized user story templates with minimum acceptance criteria and leading all Agile ceremonies (Backlog Grooming, Sprint Planning, Retrospectives).
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- Designed the comprehensive system test plan for a vehicle Immobilizer feature, ensuring robust security against unauthorized operation by validating interactions between RFID transponders and vehicle control units.

Engine Control Systems Engineer (May 2020 – June 2022)

- Decreased C code unit test run time from 33,000ms to 25ms by optimizing diagnostic test logic.
- Resolved build errors in the Jenkins CI/CD server by authoring and correcting sections of functional requirements specifications (FRS).
- Investigated and resolved multiple system defects through root cause analysis, code implementation, Matlab model changes, and HIL testing.

Drivetrain Embedded Software Engineer (October 2019 – May 2020)

- Implemented code for measured direction and output shaft speed in 8R IVT tractors using CANalyzer and TractorSim for virtual testing.
- Improved rear PTO clutch protection by modifying the torque estimation run rate, validated through SIL and HIL testing.
- Eliminated a "stuck in park" defect on 8R tractors by modifying code to align controller commands, validated via SIL testing in TractorSim.

Controls Continuous Improvement Software Engineer (March 2019 – October 2019)

- Delivered experimental software to resolve aftertreatment regen issues in under two days, releasing a critical warehouse hold.
- Decreased turnaround time for new engine payload releases by ~15-20% by presenting and aligning on a new de-tier release process with the DTAC support team.
- Introduced a new stand-up meeting format using OneNote, eliminating ambiguity in team responsibilities and improving project visibility.

PVV Mechanical Development Engineer (May 2018 – March 2019)

- Reduced post-test data processing time by at least 75% by authoring 8-10 automation scripts in VBScript and Python for DIAdem.
- Created a software request tool for test engineers that decreased payload lead times and reduced the risk of using incorrect software builds.

EDUCATION AND PROFESSIONAL DEVELOPMENT

Master of Engineering, Mechanical Engineering | Iowa State University, Ames, IA

Bachelor of Science, Mechanical Engineering | Iowa State University, Ames, IA

Systems Engineering Certificate | California Institute of Technology (Caltech)