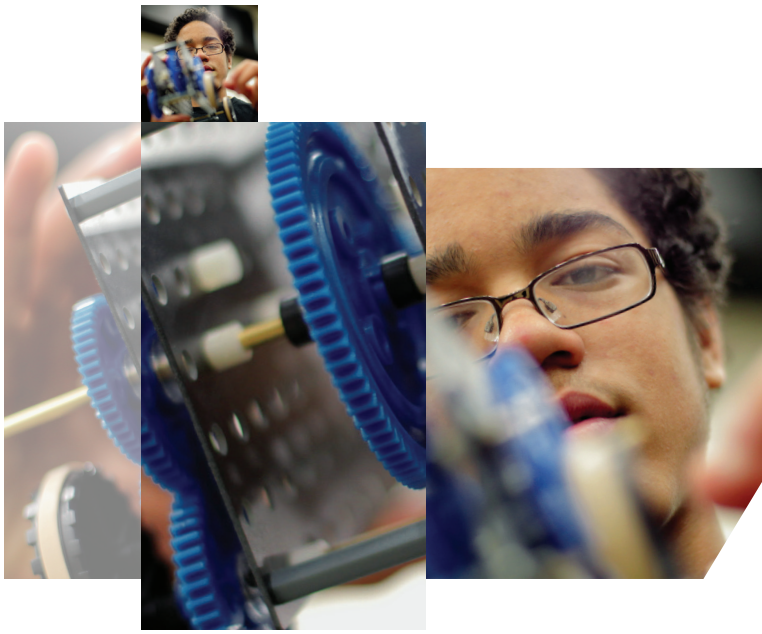
SAE Foundation℠
Inspiring Curiosity in STEM

INTEL AND SAE PARTNER TO CULTIVATE TOMORROW'S ENGINEERS

> "As a college student on a multidisciplinary SAE Collegiate Design Series team, my greatest takeaway was the practical experience. We engaged with industry professionals to solve real-world problems. Being able to apply the skills and knowledge I was learning made me a better engineer."
>
> — Jacob Krakauer, Automated Driving Strategic Marketing Engineer, Intel

Today's workforce is undergoing massive changes due to advances in technology and automation. Now more than ever, business and technology leaders must ensure that upcoming generations are equipped with the skills needed to create the technology of the future. To do so, they're actively partnering and combining resources to excite interest in science, technology, engineering and math (STEM) from an early age. Intel and SAE International®, two organizations dedicated to inspiring curiosity in STEM subjects, are working together to reinforce classroom learning through hands-on, real-life applications and challenging tomorrow's engineers to solve project-based problems.



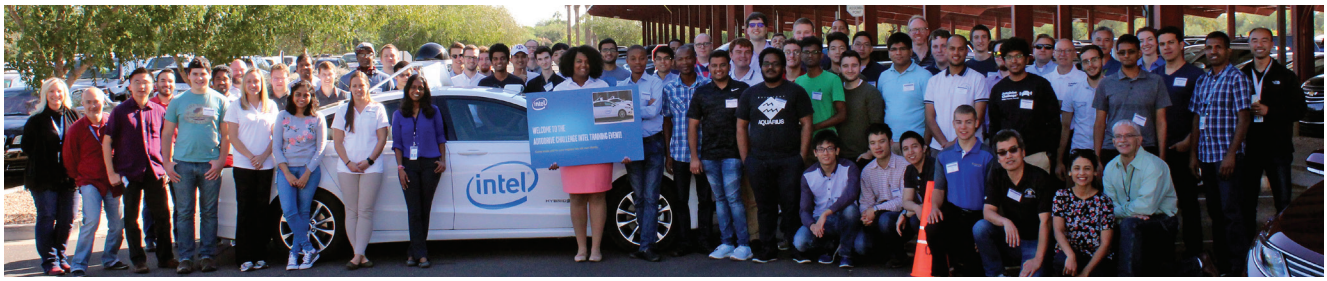
> “Our team is using the Intel Crystal Rugged server as the computational backbone for our autonomous vehicle to enhance performance, we’re also using Intel’s VTune Amplifier performance profiler and experimenting with offloading computation to an Intel FPGA. Our students have enjoyed applying what they learn in class to real-world problems and dealing with practical issues such as understanding the temperature requirements of servers and FPGAs and identifying places in the autonomous algorithm code that can be optimized.”
>
> — Daniel Limbrick, Ph.D., Assistant Professor in North Carolina A&T State University’s Electrical and Computer Engineering Department

INTEL AND SAE PUT STUDENTS IN THE DRIVER’S SEAT

As a powerhouse in computing, mobility and autonomous driving, Intel is dedicated to supporting future innovation. This Fortune 50 company is getting directly involved in education programs, advocacy and technology access to help today’s students foster skills such as critical thinking, collaboration and problem solving. Intel contributes its market-leading expertise through a wide array of STEM initiatives. Recognizing that its employees are its biggest asset, Intel encourages them to share their experience, talents and passions with schools, nonprofits and organizations in local communities and around the world.

Intel and the SAE Foundation share a common goal of fostering educational programs that focus on automated driving and artificial intelligence. Since 2017, Intel has been an Official Supplier of the AutoDrive Challenge™, a three-year autonomous vehicle competition that tasks students with developing and demonstrating an automated driving platform capable of SAE J3016 Level 4 operation. Intel has not only contributed overall funding for the program, it is also supplying collegiate teams with the computing platform on which to build their systems and ongoing expert technical support to help them translate classroom knowledge into hands-on applied skills. Through mentorships and face-to-face training workshops, this unique partnership continues to provide many learning opportunities for students, teachers and communities.

Intel is actively shaping the workforce of tomorrow and also providing students with a bridge to the mobility industry.



SAE Champions STEM Education

Through the SAE Foundation, SAE transforms the educational system, providing professional development for teachers and inspiring the next generation of innovators to pursue careers in math and science. Funds raised by the SAE Foundation support SAE International's award-winning A World In Motion® (AWIM) program and Collegiate Design Series™ (CDS), which have reached more than 6 million students worldwide and engaged more than 30,000 STEM industry professionals as volunteers. Through these programs, teachers are provided the resources and support to connect classroom learning with real-life application and enable students to develop the 21st-century skills they need to succeed in real-world work environments.

PLANTING STEM SEEDS STARTING IN PRE-KINDERGARTEN

Fostering an interest in STEM subjects begins long before students reach college. SAE International partners with industry leaders to engage and inspire students at the earliest age possible through the award-winning A World In Motion® (AWIM) program, spanning pre-kindergarten through grade 8. AWIM brings STEM education to life by introducing students in all communities to the wonder of science-related careers, developing inquisitive minds and preparing them for the challenges of tomorrow through personal discovery. Age-appropriate learning experiences include challenges such as Rolling Things for kindergarten–grade 3, Gravity Cruiser and JetToy for grades 4–6, and Fuel Cell and Cybersecurity: Keeping Our Networks Secure for grades 6–8.

AWIM: The Proof is in the Numbers

94% Increased interest in exploring math and/or science concepts

91% Increased awareness of the engineering profession

84% Interest in an engineering career

84% Increased excitement or decreased intimidation toward learning science

81% Change of attitude toward math and/or science

72% Significant increase in the math and/or science scores

About SAE's Collegiate Design Series

The AutoDrive Challenge™ is part of SAE's Collegiate Design Series (CDS), a diverse collection of engineering competitions including Aero Design, Clean Snowmobile Challenge, Formula SAE, Formula Electric, Baja SAE and Supermileage. All CDS competitions feature hands-on, team projects that prepare mechanical, aerospace, electrical, computer, automotive and engineering students for future employment in mobility-related industries. Students are challenged to design, build and test vehicles, requiring them to develop effective budgeting, communication, project management and resource management skills—the top skills most valued by today's innovative organizations.

THE FUTURE STEM WORKFORCE DEPENDS ON COMPANIES LIKE YOURS

SAE's A World In Motion (AWIM) program is a classroom-based curriculum that introduces students as young as pre-kindergarten to critical STEM subjects in an engaged and hands-on way, inspiring their curiosity in STEM and setting them on a path of lifelong learning and success in technical fields. AWIM provides corporations with excellent opportunities to get involved and make a real difference. By collaborating to develop AWIM programs with a focus on technology of the future, students gain access to STEM concepts that they normally would not see until later in their schooling or careers. Programs like Becoming Good Digital Citizens are being designed to address ever-evolving issues regarding social media, bullying, online etiquette, safety and communication skills. Additionally, this program would give elementary students hands-on experience with creating a digital storybook, public service announcement or website to explain what they have learned. However, in order to create and implement innovative programs like this, collaboration between educators and industry is necessary—and the SAE Foundation relies on leaders like Intel to provide expertise and resources to guide the next generation.

Together, SAE and Intel are preparing and inspiring our young people toward meaningful, fulfilling careers in STEM fields. By partnering with SAE, you can make a significant impact by creating a pipeline of talented, STEM-fluent innovators prepared to step into the workforce. To learn more about SAE's STEM initiatives and get involved, visit **SAEFOUNDATION.ORG**

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