

# ELECTRICAL AND COMPUTER ENGINEERING: MACHINE LEARNING AND SIGNAL PROCESSING, M.S.

This is a named option in the Electrical and Computer Engineering M.S. (<http://guide.wisc.edu/graduate/electrical-computer-engineering/electrical-computer-engineering-ms/>)

The Electrical and Computer Engineering Department (ECE) offers the Electrical and Computer Engineering M.S.-Machine Learning and Signal Processing (MLSP) named option program which is intended for students looking for an advanced entry into a data science career in industry.

Students will learn quantitative thinking, practical problem-solving, computer programming, and applications to a variety of domains. It is designed to deepen the student's technical knowledge and sharpen their professional skills for a well-prepared entry into industry. The program provides a practical focus through a course-only curriculum, an accelerated and predictable 16-month completion time, and a professional development hands-on project requirement. Well-prepared students and UW–Madison undergraduates may find it feasible to complete the program in 12 months.

The required coursework draws upon foundational and cutting-edge methods in MLSP, and is taught by faculty conducting pioneering research in the field. Successful students will have some experience with linear algebra, statistics, and programming. The combined focus on the mathematical foundations of data science and their practical application to real-world problems will prepare graduates to be ready to immediately contribute in a variety of different jobs across data science, machine learning, and signal processing.

The focus of the MLSP program differs from the traditional research-based M.S. program. MLSP students do not conduct independent research and prepare a thesis, but rather have an accelerated course plan focused in the MLSP area with a professional development hands-on project, either via an internship/co-op or an independent project. Students also have the opportunity to take select courses from Engineering Professional Development. If you are interested in research and advanced concept development, you are better served pursuing a research-based M.S. program or a Ph.D. program. If you want to complete your degree in 12–16 months and have a fast-track into the data science workforce, then the MLSP program is right for you.

MLSP students cannot be simultaneously enrolled in another graduate program at UW–Madison while completing this program.

After completing the program, students will earn a diploma stating "Master of Science in Electrical and Computer Engineering," and the transcript will include the indication "Named Option: Machine Learning and Signal Processing."

For more information on this specific degree plan, please visit the program website (<https://www.engr.wisc.edu/department/electrical-computer-engineering/academics/master-of-science-spml/>).