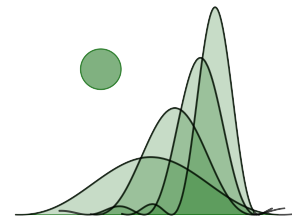




Colloquium Series

Department of Mathematics and Statistics



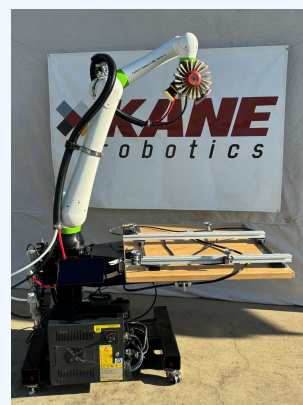
Prof. Arlo Caine
Cal Poly Pomona

Mathematical Problems in Collaborative Robotics

Abstract: I serve on the Advisory Board of Kane Robotics, Inc., a 6-yr old startup company that builds tools using collaborative robot arms for automation of dull, dirty, and dangerous/debilitating processes in manufacturing. During the 23-24 academic year I worked as a consulting engineer while on sabbatical leave from CPP, leading the company software engineering team on a number of interesting projects involving robot motion planning and simulation, computer vision and AI, mechanical design, assembly, and installation.

In this talk, I will share my experience and survey some of the mathematical problems I encountered and solved using algebra, geometry, and analysis and then propose some deeper projects for future research in support of this industry.

Keywords: Mathematics, Kane Robotics, robot arms, simulations, AI, mechanical designs, encountered mathematical problems, and future projects.



Wednesday, Sep. 11, 1:05 – 1:50 pm in 4-2-314