Kiron Mateti, Ph.D.

# E1980172 Autonomous Driving Research Engineer --- Control

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Dear Autonomous Driving Hiring Manager,

I have a lifelong passion for autonomous systems and robots. For my undergraduate senior design project, I built a line-following, grid navigated LEGO robot that competed head to head in an IEEE sanctioned competition. Now, at JBT Automated Guided Vehicles, I have used my expertise to design safe forklift vehicles that sense obstacles, localize and follow their guide path, and stop with sub centimeter accuracy. I am lucky enough to have a career where I can continue to follow my passion, and the Control Engineer position with the Autonomous Driving Research Group is a natural fit, and an exciting growth opportunity.

I have significant experience using MATLAB and Simulink for modeling, simulation, and control. At JBT, some examples are modeling vehicle pitch over stability, longitudinal, and lateral dynamics, and developing an improved steer control law for path following. Previously, with the Navy, I estimated the system dynamics of a gimbaled electro-optic sensor using controlled rotation tests and input/output data. For my Ph.D., I developed and validated a nonlinear model of a miniature piezoelectric flapping wing vehicle.

Additionally, I have significant experience with optical sensing technologies, such as visible and infrared cameras, 2D LIDAR, and 3D Time of Flight cameras. I have developed advanced perception algorithms that track targets in multiple spectrums, detect pallets and racking systems, and implemented them in C++ applications running in real-time on productions systems.

I am looking forward to learning more about the Controls Engineer position, and the opportunity to leverage my background while also continuing to grow.

Sincerely,

Kiron Mateti