



iGP: Autonomous Car

iGP Module: Drive & Steer-By-Wire for an Electric Vehicle

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In this module, undergrads will model, design, manufacture and assemble a mechanism to retrofit an existing electric vehicle such that it enables drive and steer-by-wire features. These systems will be used by other teams to enable this vehicle to drive autonomously. The team will participate in

1. Measuring the current steering mechanism
2. Estimation of torques and forces
3. Modeling and simulation
4. Sensor and actuator selection
5. Designing a human interface with a force feedback mechanism
6. Design of the embedded system at the heart of this module
7. Manufacturing & Assembly
8. Integrating with existing drive and steering mechanisms
9. Testing