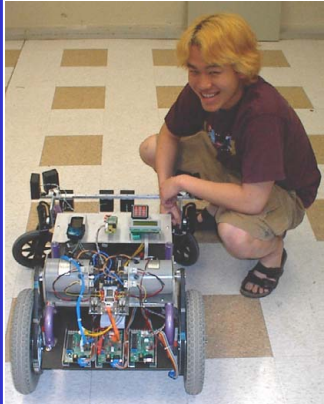




Whitney – Autonomous Vehicle Senior Capstone Project

Advisers: Ed Jackson and Roman Kuc
Department of Electrical Engineering, Yale University



Michael Liu

Major: EE/CS '02

Project: Whitney's BRAIN – Real-time sensing and control in a distributed embedded computing environment

After Yale: IBM Software Development Engineer

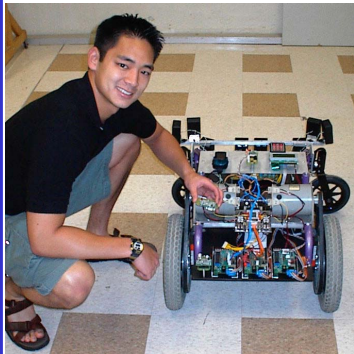


Alan Ghelberg

Major: EE & Economics '02

Project: Designing a Dead Reckoning Positioning System

After Yale: Associate Consultant, Bain Consulting, Boston



Jimmy Su

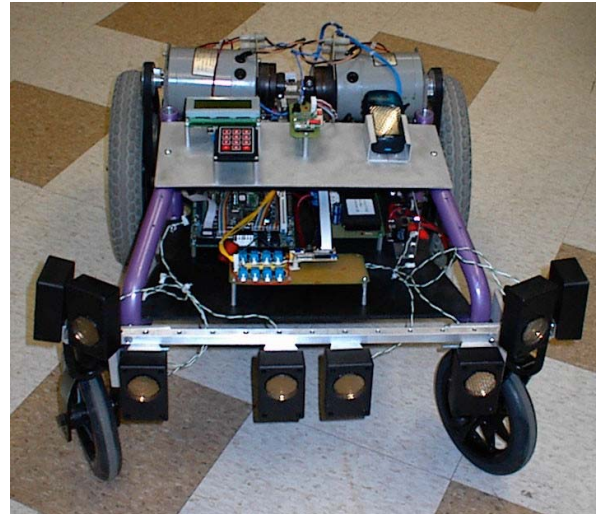
Major: EE/CS & International Studies '02

Project: Interactive display using wireless communication

After Yale: Goldman Sachs Investment Banking Analyst, LA

Whitney

Whitney, named after the young user of the wheel chair that forms the chassis, is an autonomous vehicle equipped with GPS, digital compass, odometer, sonar, infrared and tactile sensors, and a joy stick. Whitney acquires sensor data during a journey along a route and then repeats the path autonomously while avoiding obstacles.



Whitney's brain is an EBX Pentium PC with keypad input and LCD display. Peripheral PIC microcontrollers acquire sensor data and control drive motors through serial ports. A wireless link to a remote laptop and workstation provides status data for monitoring operation. An optical link directs an electric scooter to follow Whitney and transport a supervisor to observe performance.



Roman Kuc & Ed Jackson

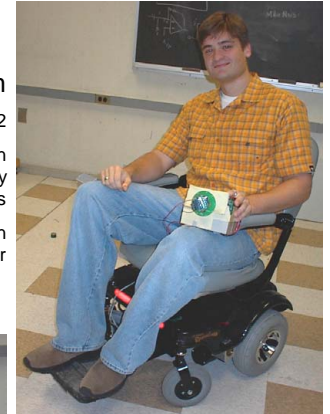
Research supported by the
Yale Science and Engineering Association

Andy Graham

Major: EE/CS '02

Project: Environmental challenges in infrared communications for optically coupling vehicles

After Yale: Electrical Design Engineer



Andy Nelson

Major: ME '02

Project: Intelligent bumper system for collision mitigation

After Yale: Mechanical Design Engineer

Ethan Bregman

Major: EE '02

Project: Sonar array for obstacle detection and collision avoidance

After Yale: Race Car Mechanic and Graduate Electrical Engineering Program at Princeton

