

All-Terrain Rover Development: A MakerSpace Success Story

We're excited to share the outstanding work of our MakerSpace members, Dev Sharma and Kulvarshne, who have successfully developed an advanced all-terrain rover.

Project Highlights:

Dev Sharma, a third-year student, and Kulvarshne, a second-year student at JCRC University, have transformed an initial prototype into a fully functional terrain rover through dedicated engineering and problem-solving.

Technical Innovations:

■ System Architecture

- Integrated BTS 7690 motor driver with ESC connectivity
- Implemented Nema 17 motors with planetary gearbox for enhanced torque
- Designed chain sprocket drive mechanism for efficient power transmission
- Developed custom circuit design for optimal performance

■ Current Capabilities

- All-terrain navigation for diverse environments
- Payload capacity for sample collection and material transport
- Access to confined and hazardous areas
- Durable construction for challenging conditions

■ Future Roadmap

- Enhanced structural robustness for extreme terrain
- Autonomous navigation implementation

- Advanced mapping and obstacle detection
- Path planning and localization systems
- Real-time stabilization features

This project exemplifies the innovation and hands-on learning that happens at our MakerSpace. We're proud of Dev and Kulvarshne's commitment to excellence and technical achievement.

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