UW–Madison's Tech Exploration Lab Fuels Student Innovation in AI, Agri-Tech, and Healthcare Solutions

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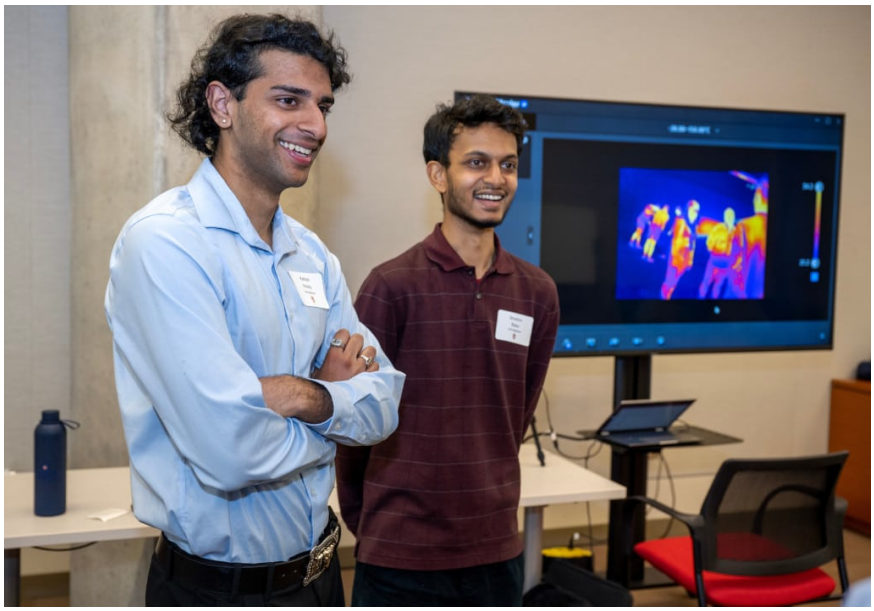

The University of Wisconsin–Madison's Tech Exploration Lab, a collaborative initiative between the Wisconsin School of Business and the Wisconsin Institute for Discovery (WID), recently showcased 24 cutting-edge student projects demonstrating bold ideas and impactful solutions across various sectors. The open house event highlighted the program's success in fostering innovation by integrating real-world challenges with emerging technologies and mentorship from UW–Madison alumni, embodying the Wisconsin Idea of extending education's benefits beyond the classroom.

Among the notable projects presented was an AI-powered retail promotion strategy developed by freshman computer science and data science students in partnership with industry leaders from Crystal Farms Dairy Company and Cub Foods. The team, led by Tiancheng "Albert" Wu, developed analytical models based on Google's Gemini LLM to optimize trade promotion strategies, demonstrating a 10-15% improvement over the baseline model. Their work resulted in an application designed for stakeholders to analyze future spending scenarios, showcasing the potential of customized LLMs for regional businesses.

Another impactful project, Ember AI, created by computer science juniors Kathan Reddy and Shobhin Basu, utilizes computer vision and thermal imaging to detect and track stray embers during wildfires. Developed with a focus on humanitarian application, the algorithm aims to provide firefighters with a tool to better predict and manage the spread of fires. The students leveraged the resources and mentorship provided by the Tech Lab, including guidance from Kevin Ponto and insights from industry experts, to advance their project.

Addressing a critical healthcare need, computer science and data science junior Aarya Deshpande presented “Hatti for Alzheimer’s,” an innovative app for caregivers of individuals with Alzheimer’s disease. Inspired by a personal connection, the app aims to serve as a digital life storybook, incorporating features for photo recognition, memory recall, and dynamic content adaptation based on emotional cues. Deshpande collaborated with dementia scientists and AI experts at UW–Madison, leveraging the Tech Lab’s network to refine his prototype and connect with potential users.

These projects exemplify the innovative spirit and real-world problem-solving fostered by the Tech Exploration Lab. The program continues to empower students to develop impactful solutions, bridging academic learning with practical application and contributing to advancements in fields ranging from artificial intelligence and retail to public safety and healthcare. Several of the showcased projects are continuing development, with plans for further refinement, real-world testing, and potential commercialization.