

CS 481 Project List

Group No	Name of Students	Project Title	Project Description
1a	Jayanth Dhage Masashi Takahashi Benjamin Bradford Harrison York David Clark	WV Quest	Expanding Interactive Learning Experiences in Museum Settings. Enhancing an Augmented Reality App with Unity Integration, Collectibles, Leaderboards, Profile Tracking, and a Company Store Feature, Fostering Engagement, Learning, and Exploration of West Virginia History
1b	Conner Rush Rama Al-Omar	Purple House	Build a choice and consequence based strange plant building/maintenance game named Purple House.
2a	Carter Kiss Frank Bonanno	Spy Cats	Spy Cats, remastered: A platforming adventure as a cat that is a spy.
2b	Christopher Ward Rae McDonald Jared Willis	Lightkeeper	Build a local multiplayer game of 'who can keep the light the longest' between our two studio mascots "Spark and Berry"
3	Faith Riggle Isabella Lutz Carlee Lusher Riley Palumbo	PICARD UI Project	Enhancing User Experience and Data Visualization in the PICARD Project. Collaborative Efforts on the Graphical User Interface for Advanced Machine Learning Algorithm Analysis and Testing, Utilizing React.js for Frontend Development.

4	Jack Byers Nate Huff Haidara Mohin	PICARD	Developing a Platform for Researching Semi-Supervised Distributed Machine Learning Algorithms to Accurately Classify Massive Sets of Asymmetrical Data with High Labeling Costs
5	Anthony Hudson Logan Yokum Peter Zekonis Grant Thompson	INDRA: Cloud Computing (INDIRA-1)	Deliver a cloud platform for INDRA development, enhancing both developer and end-user experience.
6	Justin Scott Dylan Cunningham Alexander Roland	Drone Hacking (INDIRA-2)	Exploring and Developing Advanced Cyberattack Modules to Target Drones Operating at 5.8 GHz, Enabling Video Feed Interception, Data Stream Manipulation, and Full Drone Takeover
7	Niclas Tribuiani John Metzger Malcolm Milligan	Dr. Bandura's project	Enhancing FRB Detection at Greenbank Observatory: Development of an H-Plane Sectoral Horn Antenna to Mitigate Radio Frequency Interference for CHIME Outrigger Telescope Operations
8	Tyler Gilhuys Thomas Killian Michael Hogue Les Lacek	Rehabilitation Monitoring System Application	Enhance Rehabilitation Monitoring System with improved user interface and workout database for better athlete recovery support.

9	<p>Kolby Eisenhauer Anna Mosey Nathan Mullins Shivan Prasad</p>	<p>Biometric Access Control System</p>	<p>Advancing Safety and Security through Biometric Access Control. Addressing Vulnerabilities in Authentication Systems to Safeguard High-Risk Environments such as Borders and Airports, Proposing a Scalable Solution for Enhanced Campus Security and Efficient Monitoring of Foot Traffic</p>
10	<p>Michael Barchett Ryan Evans Wesley Beddow Brett Finzel</p>	<p>WVU PLC Laboratory Implemented as a Small Scale Model of the Evansdale Campus</p>	<p>Creating an Innovative Control Systems Laboratory. Collaborative Efforts with Grimm Cyber to Design, Implement, and Integrate a Scale Model of WVU Evansdale Campus, Fostering Hands-On Learning Opportunities in Computer and Control Systems Engineering Through Programmable Logic Controllers (PLCs) and Project-Based Assignments</p>
11	<p>William Haller Erik Bauer Nabras Al Amri Samuel Jewell</p>	<p>Synchrophasors for DTT at DER Interconnects</p>	<p>Exploring Synchrophasor Relays as Redundant Alternatives for DER Interconnects, Addressing Cost and Cybersecurity Concerns While Enhancing Fault Detection and Inverter Shutdown Functionality</p>

12	Samuel Holroyd Michael Behanna William Zheng Kerrigan Ranshaw Sarth Patel	Development of Secure Smart-Home Hub Web Application	RANIA Hub, a Web Application for Smart-Home Integration and Remote Caregiver Communication, Addressing Safety Risks and Health Needs of Aging Populations in an Era of Increasing Life Expectancy
13	Wanlace Yates Nathaniel Jones Riley Stauffer	Activity Recognition and Fall Detection	Designing an In-Home Fall Detection System, with Focus on Senior Individuals' Independence and Well-Being, and Consideration of Impact on Family, Emergency Services, Insurers, and Care Facilities
14	Nicholas Kennedy Kenneth Clark Hugo Carducci Dylan Smith Tim Thai Jay Bhardwaj	Smart Home Assistant using a Large Language Model	Development of a Smart Home Assistant to Combat Loneliness and Isolation, Utilizing Advanced Natural Language Processing Models for Human-Like Interaction and Integration with RANIA Smart Hub to Enhance Convenience and Quality of Life for Elderly Individuals Living Alone
15	Rebecca Lamb Ethan Boddy Makayla Davis Chris Henry Sophia David	LLM Conversational Assistant	Leveraging Advanced Technology to Develop a Conversational Assistant Integrating Large Language Models and Rania Hub System for Enhanced Quality of Life and Support with Activities of Daily Living

Marissa Wahler
Omar Ndiaye

Monitoring of Vehicle
Status for WVU's PRT
System

Enhancing Reliability
and Efficiency of the
West Virginia University
PRT System by
Implementing Sensor-
Based Monitoring and
Analysis to Reduce
Downtime and Improve
Student Experience, with
Consideration for
Stakeholder Involvement
and Modern
Technological Solutions.