

## **ECE560 Project Ideas (Spring 2024)**

Listed below are some examples of project topics I collected from previous semesters and other universities offering similar course. The list is intended to get you think about possible project ideas and should not be considered a complete list of possibilities. You can **either select one of the listed topics or feel free to propose alternative ideas that are relevant to the course and are of particular interest to you.**

- Analyze performance of some interesting systems (Internet of Things systems, blockchain-based systems, cloud computing systems, sensor networks, storage networks, database systems) using methods discussed in the class or some standard benchmark programs.
- Analyze performance of a subsystem (memory, CPU, I/O) of some interesting machine using standard benchmark programs or benchmark programs you develop.
- Identify bottlenecks in some interactive computer system and tune it to obtain better performance.
- Develop a benchmark to test throughput and response time of a Web server.
- Analyze communication parameters of some computer network as a function of system workload.

### **Some specific project topics**

- Performance Evaluation of Wireless Body Area Networks
- Performance Evaluation of Unmanned Aerial Vehicles (UAV)
- Performance Evaluation of Blockchain Systems
- Performance Evaluation of Smart Homes
- Performance Analysis of Cloud computing Services for Scientific Computing
- Performance Evaluation of Various Audio Formats
- Performance Evaluation of Different Video Codecs
- Benchmark Comparison of Arrays vs Lists Data Structures
- Performance evaluation of wireless sensor networks for target tracking
- Performance Evaluation of Wireless Sensor Network under Denial-of-Service Attacks
- Characterization of Internet traffic and performance evaluation of caching strategies
- Performance study of wireless LAN
- Performance Evaluation of Data Compression Algorithms
- Performance Study of Home Local Area Networks
- Performance Evaluation of a Model Airport Security System
- Cache/Virtual Memory System Replacement Policy Analysis
- Performance Evaluation of Compression Algorithms
- The Study of Workload - Response Time Correlation in Interactive Multiuser Systems
- Performance Analysis of Data Link Protocols Using Varying Error Rates
- Simulation of Various Command Queuing Algorithms in a Disk Drive
- Estimating Trace Overhead of the SMTRACE Performance Measurement Tool
- Performance of World Wide Web Index Services
- Evaluation of Intrusion Detection Algorithm Against a Sinkhole Attack on LEACH Protocol
- Debunking The Mega-Hertz Myth: A Performance Comparison Between Leading Commercial Microprocessors
- Performance Analysis of Conventional Hard Disk Drives, USB Flash Drive, Solid-State Flash Drives
- Performance Comparison of Popular Routing and Wavelength Assignment Protocols for Various Stochastic Traffic Patterns in Optical WDM Networks