• **Types of undergrad research project:** Real-time machine learning; data-based real-time risk assessment; fault-tolerant and secure real-time, embedded, cyber-physical systems and IoT; real-time virtualization and cloud computing.

• **Sample Topics:** Building an Experimental Scaled City with Autonomous Model Cars to Evaluate Real-Time Learning and Decision System for Traffic Routing (Lego sets and fast autonomous model cars!); Real-Time COVID-19 Infection Risk Assessment and Mitigation based on Public-Domain Data (a cool App!); Real-Time Machine Learning: Leveraging the Selfless Driving Model to Reduce Vehicular Network Congestion; Detecting Integrity Attacks in Cyber-Physical Systems, Fault-Tolerant Regularity-Based Real-Time Virtual Resources; Incorporating Deadline-Based Scheduling in Extreme-Scale Parallel Computing (HPC).

• **Time frame:** Curious students can email questions, CV and unofficial transcripts to me anytime. Projects can be completed in one month, two months, one or two semesters.

• **Student level:** Recommended GPA >= 3.5/4.0; preferably Junior and Senior-level, but Sophomore-level will also be considered. Strong mathematics and programming background.

• **Courses accomplished:** Data structures and Computer Architecture.

• **Additional skills:** Highly motivated with good programming skills (Python, C, C++, and/or Unix/Linux).