About Me

Prof Venki Muthukumar

About Me …

- Name:
  - Prof Venkatesan Muthukumar (Venki)
- Qualifications:
  - BE (Electronics & Communication Engineering)
    - Anna University – College of Engineering, INDIA
  - MS (Computer Science)
    - Monash University, School of Computing, Australia
    - Research: Digital Design for FPGAs
  - PhD (Computer Science)
    - Monash University, School of Computing, Australia
    - Research: Digital Design for FPGAs

About Me …

- Industrial Experience
  - Project Engineer, KONE Elevators (1 yr)
  - Consultant for Gaming Companies (Summers)
- Teaching Experience
  - University of Nevada Las Vegas (UNLV)
  - Graduate Coordinator in Electrical and Computer Engg.
  - 26 Years of teaching in Electrical and Computer Engg.
  - Adjunct Professor: Entertainment Engineering & Design
  - Coordinator: **Minor in Unmanned Aircraft Systems**
  - Course Taught
    - Undergraduate Courses:
      - Digital Logic Design (I&II) [I& Yr], Embedded Systems [3 Yr], Advanced Embedded Systems [4 Yr], VLSI Physical Design [4 yr], Mobile Robotics [4 Yr], Embedded Security & ML [4 yr], UAV Simulation & Testing [4 Yr], etc.
    - Graduate Courses:
      - Advanced Embedded Systems [1 Yr], VLSI Physical Design [1 yr], Mobile Robotics [1 Yr], UAV Simulation & Testing [1 Yr], Optimization of Digital Systems [PhD], Advanced Logic Design [PhD], Real-time Embedded Systems [Phd], Embedded Systems for Automation [PhD],
    - International Programs:
      - Internet of Things (CNU) [3 yrs], Embedded Systems (CSUST) [3 yrs].

Minor in Unmanned Aircraft Systems

- This minor program provides engineering and computer science undergraduate students with in-depth knowledge and technical aspects of Unmanned Aircraft Systems (UAS). The curriculum focuses on UAS applications in unmanned surveillance, data collection, and autonomous navigation. The curriculum consists of 9 credit hours of core courses plus 12 credit hours of specialized elective-tracks. The core courses include UAS technologies; UAS Privacy; UAS training and testing courses.
- 9 credit hours of core courses
  - EGG 270 - Introduction to Unmanned Aircraft Systems (UAS)
  - EGG 370 - Unmanned Aircraft Systems (UAS) Testing
  - EGG 470 - Unmanned Aircraft Systems (UAS) Applications

ROS IN MOTION

About UNLV

- Established in 1957

About ECE @ UNLV …

- The Department of Electrical and Computer Engineering has 15 faculty members covering a wide range of modern engineering fields including wireless communication, system on chip, nanotechnology, renewable energy and sensor networks.
- The Department offers B.S. in Electrical Engineering, B.S. in Computer Engineering, M.S. in Electrical Engineering and Ph.D. in Electrical Engineering.
- College of Engineering = 4000 (UG) + 300 (MS & PhD)
- Dept. of Electrical & Computer Engg:
  - 535 (UG) + 40 (MS & PhD)
- Accreditation:
  - ABET & NWCCU
- Faculties:
  - 3 Research Centers, 5 Research Laboratories, and 5 Teaching Laboratories.

My Research …

- Transportation
- Medical/Healthcare Systems
- Control Engineering
- Robotics
- UAV/UAS
- Internet of Things (IoT)
- Emergency Response Systems
- Solar Forecasting for PV Systems

Current Research on UAVs

- UAV Swarms for data collection
- Landing UAVs in uneven surface
- Robotic operations in UAVs