Special Note: This is just information for global interns to look at our faculty members and their research areas. What this mean is that even though you want to work with a specific faculty member, we may not be able to match you with him/her!! Please keep that in mind.

Undergraduate and/or Graduate Research Opportunities for international Students at the University of Nevada, Las Vegas

Department of Computer Science

Dr. Mingon Kang
- Maximum Number of Interns: 10 (but flexible)
- Projects: Bioinformatics, Deep Learning, Text/Data Mining, Computer Vision
- Areas of Expertise Interns Should Have: Programming languages skills are required. Strong background of mathematics, Statistics, and Computer Science are preferred.

Dr. Junggab Son
- Maximum Number of Interns: 10 (but flexible)
- Projects: Applied Cryptography, Privacy Preservation, Investigation of Cyber Incidents, Vulnerabilities of AI algorithms.
- Areas of Expertise Interns Should Have: Programming languages skills (Python, Solidity, etc.) are required. Strong
backgrounds of mathematics, statistics, and Computer Science are preferred.

Dr. Shaikh Arifuzzaman
- Maximum Number of Interns: 5 (but flexible)
- Projects: Designing scalable algorithms for GPUs/supercomputers, High performance computing and optimization, Large-scale data mining, Machine learning at scale, Graph/Network data mining and analytics, Social network mining and analysis
- Areas of Expertise Interns Should Have: Computer programming skills are required. Strong background in mathematics, Statistics, and Computer Science is preferred. Knowledge in some parallel computing framework/library is a plus.

Dr. John Businge
- Maximum Number of Interns: 5 (but flexible)
- Projects: Software Engineering, Software Development, Static Analysis, Program Analysis
- Areas of Expertise Interns Should Have: Programming language skills are required. Strong background in mathematics, Statistics, and Computer Science is preferred

Department of Electrical and Computer Engineering

Dr. Venkatesan Muthukumar
- Maximum Number of Interns: 8
- Projects: 1) Robotics (SLAM) 2) Unmanned Aerial Vehicles (UAVs) (acoustics and video processing) 3) Image Processing using Depth and 3D Sensors and Hyperspectral cameras 4) FPGA design for Deep Learning 5) Embedded Security and Machine Learning 6)Wireless and Wearable Sensor Networks.

- Areas of Expertise Interns Should Have: C/C++ Programming, Python+, Matlab, Embedded Systems (ARM or any 32-bit processor), Verilog/VHDL (FPGA design), Robotic Operating Systems (ROS), Linux.

Dr. Henry Selvaraj and Dr. Grzegorz Chmaj
- Maximum Number of Interns: 1
- Projects: IoT projects, FPGA/VHDL projects, and digital logic
- Areas of Expertise Interns Should Have: computer engineering in general, ideally having some knowledge about logic design, programming, embedded systems.

Dr. Biswajit Das
- Maximum Number of Interns: 2
- Projects: Sensors for autonomous vehicles
- Areas of Expertise Interns Should Have: Experience with circuits and ICs, microcontroller programming, and PCB design/fabrication.

Department of Mechanical Engineering

Dr. Mohamed Trabia
- Maximum Number of Interns: 4
- Projects: 1) Developing a predictive model for diabetic ulcers 2) Biomechanics of plantar tissues 3) Biomechanics of colorectal tissues 4) Mechanical haracterization of ploymers
- Areas of Expertise Interns Should Have:
Signal processing; Programming, preferably in Matlab; Computer vision; and Basic understanding of biomechanics and dynamics; Finite Element, preferably in ANSYS; Data analysis; Machine Learning.

Dr. Hui Zhao
- Maximum Number of Interns: 2
- Projects: 1) Biosensing 2) Nanotechnology 3) Photovoltaics 4) Biomaterials
- Areas of Expertise Interns Should Have: the knowledge of mechanical engineering, chemical engineering, and electrical engineering.

Dr. Paul Oh
- Maximum Number of Interns: 3
- Projects: The projects are in the area of robotics and automation design, research and development, and testing.
- Areas of Expertise Interns Should Have: fabrication (e.g. basic machining, 3D printing, CNC) skills, Matlab, CAD (e.g. Solidworks, Pro/E, AutoCad) and programming – all highly recommended, but not a pre-requisite.

Dr. Jeremy Cho
-Max interns: 4
-Potential projects: Pool boiling heat transfer enhancement with surfactants (experimental), -Surfactant diffusion finite-element modeling (simulation), Atmospheric water harvesting

(experimental), Hydrogel permeability study (experimental + modeling), Liquid-vapor surface tension measurement (experiment + coding)
-Recommended skills (not all required, many can be learned): Programming (any language but Mathematica and LabView preferred), Part design, 3D printing, Finite element simulation, Heat transfer, Fluid mechanics, and Thermodynamics.

Dr. Seungman Park
- Maximum Number of Interns: 5 (but flexible)
- Projects: Tissue Engineering, Mechanobiology, Biophysics, Biomedical Instrumentation
- Areas of Expertise Interns Should Have: Cell/Tissue Culture, Fluorescence Microscopy, Biomedical Engineering, and Biomechanics.

Dr. Shengjie (Patrick) Zhai
- Maximum Number of Interns: 5
- Projects: Sensors for autonomous vehicles 1) Novel nanomaterials and patterning techniques for bioelectronics, optoelectronics, and photovoltaics, 2) Plasmonic-enhanced biosensors for single-molecule biomedical analysis, 3) Micro/Nanoelectromechanical systems (MEMS/NEMS), 4) Physiological organ biomimetic systems built on microfluidic chips and multi-external driven, scaffold-free engineered human tissue models, and 5) Artificial intelligence-assisted health assessment.
- Areas of Expertise Interns Should Have: Experience with materials and general knowledge about electric and mechanical engineering background.

Dr. Heejin Cho
- Maximum Number of Interns: 5
- Projects: (1) Energy system modeling and optimization for renewable power generation and energy storage systems (2) Development of advanced sensor and control system for buildings (3) Design, modeling, and optimization for advanced Heating, Ventilation, and Air-Conditioning (HVAC) systems (4) Design and optimization of Net Zero Energy/Carbon Buildings
- Areas of Expertise Preferred: Energy modeling experience, Python programming experience, Hands-on experience with energy systems and data acquisition systems

Dr. Meng-Jen (Vince) Wang
- Maximum Number of Interns: 5
- Projects: (1) computational particle transport simulation method development (2) nuclear reactor physics (3) radiation shielding design and analysis (4) criticality safety analysis. - Areas of Expertise Preferred: computer programming, nuclear engineering background, physics background, mathematics, and computer science background.
- Special Note: Dr. Wang cannot take students with citizen of Cuba, Iran, North Korea, Sudan, and Syria.

Department of Civil and Environment Engineering

Dr. Fanxiao Liu
- Maximum Number of Interns: 3
- Projects: Building Information Modeling (BIM), Virtual Reality (VR)/Augmented Reality

(AR), Unmanned Aerial Vehicle (UAV), Game Engine
- Areas of Expertise Interns Should Have: Experience with modeling, VR and/or coding

Dr. Jee Woong Park
- Maximum Number of Interns: 3
- Projects: 1) Tactile-based communication system for quick signaling to human subjects. 2) Human detection and density estimation by Bluetooth-low energy technology.
- Areas of Expertise Interns Should Have: Programming skill is preferred. Student without programming skills can assist system testing and other relevant activities.

Dr. Premen Shrestha
- Maximum Number of Interns: 2
- Projects: Determine the cost, schedule and change orders performance in building construction projects
- Areas of Expertise Interns Should Have: Experience with civil engineering and construction management background.

Dr. Hualiang Teng
- Maximum Number of Interns: 5
- Projects: Optimize the maintenance practice considering the deterioration process of the multiple track elements in high speed rail systems
- Areas of Expertise Interns Should Have: Experience with civil engineering and high speed rail systems and projects background.

Dr. M. Karakouzian
- Maximum Number of Interns: 5
- Projects: Conducting experiments and tests on construction materials by using construction materials and testing equipment.
- Areas of Expertise Interns Should Have: Experience with civil engineering background.

Dr. Nader Ghafoori
- Maximum Number of Interns: 5
- Projects: Conducting experiments and tests on construction materials by using construction materials and testing equipment.
- Areas of Expertise Interns Should Have: Experience with civil engineering background.

Dr. Eakalak Khan
- Maximum Number of Interns: 2
- Projects: 1) Biodegradability and bioavailability of contaminants in Water 2) Removal of contaminants from water and wastewater
- Areas of Expertise Interns Should Have: Wet chemistry laboratory skills including safe handling of chemicals.

Dr. Jacimaria Batista
- Maximum Number of Interns: 1

- Projects: Environmental engineering research 1) Biological phosphate removal 2) Biological chromate reduction 3) Perchlorate reduction by bacteria.
- Areas of Expertise Interns Should Have: Wet chemistry laboratory skills including safe handling of chemicals; Junior or Senior Student

Dr. Erica Marti
-Maximum number of Interns: 2
-Projects: 1) Collection and analysis of water samples to determine potential for formation of disinfection byproducts, and 2) investigating multiple strategies to reduce trihalomethanes (THMs) in water reservoir tanks. Some projects may involve working with wastewater or untreated surface waters.
-Areas of Expertise Interns Should Have: Environmental engineering, environmental chemistry, or analytical chemistry background. Students must have prior wet lab experience (e.g. chemical handling, pipetting, glassware handling, making solutions). Prior experience with mass spectrometry instruments is preferred but not required.

Dr. Jin Ouk Choi
- Maximum Number of Interns: 3 (in a condition that interns will have their own space/desk for work)
- Projects: 1) Construction Industry Institute's Modular Construction/Standardization 2) National Science Foundation's Construction Workforce 3)University Transportation Center's Planning/managing High-Speed Rail project
- Areas of Expertise Interns Should Have: 1) Basic Knowledge in Construction/Civil Engineering 2) Research interests in Construction Engineering and Project Management 3) English Proficiency

Dr. Ying Tian
- Maximum Number of Interns: 3 (but I cannot provide any office space)
- Projects: the experimental component of my ongoing NSF project: Behavior of reinforced concrete structures near collapse.
- Areas of Expertise Interns Should Have: Must have taken the courses of concrete material and reinforced concrete structures

Dr. Sajjad Ahmad
- Maximum Number of Interns: 3-4
- Projects: Storm water management; climate change; urban hydrology; groundwater change estimation using satellite remote sensing
- Areas of Expertise Interns Should Have: some Matlab programming skills,
course work in hydrology, water resources engineering, and GIS will be helpful but not required.

Entertainment Engineering and Design

Dr. Si Jung Kim
- Maximum Number of Interns: 6 (2 teams with 3)
- Projects: 1) Augmented and Virtual Reality (AVR); 2) Robotics

- Areas of expertise interns should have:
Programming experience with any computer languages and/or Experience with electronic circuits; Microsoft office programs;