What is the ATR Center Summer Program?

The ATR Center Summer Program is a collaborative research experience for university professors, students, industry, and government to work together to solve challenging Air Force problems in sensing technologies, including sensor processing and exploitation, object detection, tracking and recognition, navigation, geolocation, malware detection and defense, and many others. Students work with an Air Force mentor at Wright Patterson Air Force Base or nearby Wright State University, and have access to outstanding computing resources, measurement and modeling tools, and data.

How will I benefit from the ATR Center Summer Program?

Students at all levels undertake well-planned projects that extend and apply their technical skills. Interns interact with other students, university faculty, and Air Force mentors to improve communication skills through presentations and documentation. Their summer accomplishments enhance their education and provide relevant technical experience for future work.

How can I participate?

Send your resume and unofficial transcript to the email address below by February 10th, 2018 for consideration and the best possible match with a mentor. Include relevant course work, prior and current projects, technical work experience and technical area of interest. If you have prior ATR Center experience or would like to work with a particular Govt. mentor please let us know.

atrcintern@wright.edu

If you have other concerns or questions please contact:

Dr. Robert Myers, 937.545.0393
robert.a.myers@wright.edu

Dr. Fred Garber, 937.620.8789
Fred.garber@wright.edu

Wright State University

Autonomy Technology Research (ATR) Center Summer Program

**In Collaboration with
Air Force Research Laboratory
Sensors Directorate**

**WRIGHT STATE
UNIVERSITY**

**Wright State University
3640 Colonel Glenn Hwy
Dayton, Oh 45435**

Potential research topics areas

Deep Learning/Machine Learning
Generative Adversarial Networks (GANs)
Blended Synthetic/Measured Training Data for Machine Learning
Signal Processing
Performance Modeling
Behavior, Pattern of Life Exploitation
Synthetic Data Generation and Development
Multi-Sensor Detection, Tracking, Identification, 3D Reconstruction
Image Registration
Sparse and Low Rank Regularization
Joint Synthetic Aperture Radar (SAR) Image Formation and Feature Extraction
SAR/Synthetic Aperture Ladar Fusion
Electro-Optical (EO)/Infrared (IR) Image Formation and Registration
Multi-Sensor Feature Analysis
Wide Angle Signature Analysis
Multi-Mode Sensor Fusion
Signal Processing for Vibration Sensing
Ladar System Test and Evaluation
Low-cost EO/IR Sensor Prototyping
Laser Vibrometry
Narrow Band Imaging
Comprehensive Sensing
Multiple-Input, Multi-Output (MIMO) Radar

Bistatic and Passive Radar
Malware Detection in Embedded Operating Systems
Bio-inspired Defenses to Malware on an Operating System
Navigation in GPS Denied Environments
Geolocation of Signals
Test and Evaluation of Adaptive Systems
Space and Time Adaptive Processing
Adaptive Radar Signal Processing
Highly Integrated Microsystems
Electronic Devices- EO/IR Component Technologies
Computational Electromagnetics
Conformal Antenna Design, Fabrication and Test
Multi-Mode Radar Waveform Design
Complex Radio Frequency Signal Processing
Ultra-Sensitive Radio Frequency Receivers
Quantum Electromagnetic Direction Finding Sensors

Compensation

- **Competitive Pay**
- **Free Housing**
- **Travel to and from Dayton Ohio**
- **Use of WSU Facilities**

Organized activities for ATR Center participants

Last summer's collaborators

Wright State University
The Ohio State University
Massachusetts Institute of Technology
University of Dayton
Colorado State University
University of Illinois
University of Oklahoma
Purdue University
Georgia Institute of Technology
University of Florida
University of Wisconsin
Ohio Northern University
City College of New York
University of Alabama
University of Kansas
Brigham Young University
Mississippi State University
Anderson University
University of Cincinnati
University of Pennsylvania
University of Michigan
Arizona State University