Faculty

Marvin Andujar, Assistant Professor, brain-computer interfaces, drones.

Shaun Canavan, Assistant Professor, computer vision, affective computing.

Sriram Chellapan, Associate Professor, socio-technical systems.

Ken Christensen, Professor and Associate Chair of Undergraduate Affairs, energy efficient networks.

Suey-Chun (Roger) Fang, Instructor II, data modeling and information systems.

Alessio Gaspar, Associate Professor, evolutionary algorithms and education research.

Dmitry Goldgof, Professor and Vice Chair, medical image analysis and computer vision.

Lawrence Hall, Distinguished University Professor, intelligent systems and data mining, AI.

William Hendrix III, Instructor and CS/CpE Program Coordinator, graph algorithms and parallel computing.

Isabela Hidalgo, Instructor I, human-computer interaction.

Adriana Iamnitchi, Professor, distributed systems and computational sociology, AI.

Henrick Jeanty, Instructor I, technical analysis algorithms.

Robert Karam, Assistant Professor, hardware security and reconfigurable computing.

Rangachar Kasturi, Douglas W. Hood Professor, computer vision and pattern recognition.

Srinivas Katkoori, Associate Professor, low power VLSI synthesis.

Valentina Korzhova, Instructor I, computer vision.

Miguel Labrador, Professor and Associate Chair of Graduate Affairs, computer networks and ubiquitous sensing.

John Licato, Assistant Professor, computational modeling of cognitive reasoning, AI.

Jay Ligatti, Associate Professor, software security and programming languages.

Yao Liu, Assistant Professor, network security and wireless technologies.

Mehran Mozaffari Kermani, Assistant Professor, cryptographic engineering.

Xinming (Simon) Ou, Associate Professor, cyber security and cyber physical systems.

Rafael Perez, Professor, artificial intelligence and neural networks.

Les Piegl, Professor, geometric modeling and computer graphics.

Paul Rosen, Assistant Professor, data visualization and computer graphics.

Sudeep Sarkar, Professor, Department Chair, and AVP for USF I-Corps Programs, computer vision and biometrics.

Schinnel Small, Instructor I and IT Program Coordinator, programming languages and visual analytics.

Yu Sun, Associate Professor, intelligent systems, robotics, cyber physical systems.

Ralph Tindell, Instructor I, mathematics and computer science.

Yicheng Tu, Associate Professor, database systems and multimedia systems.

Phil Ventura, Instructor II, pedagogy of object orientation.

Jing Wang, Instructor II, computer animation and K-12 outreach.

Alfredo Weitzenfeld, Professor, cognitive robotics and humanoid robots.

Yan Zhang, Instructor I, congestion control and energy optimization.

Hao Zheng, Associate Professor, system verification and validation.

Leadership

Sudeep Sarkar, Chair.
Dmitry Goldgof, Vice-Chair
Ken Christensen, Associate Chair of Undergradaute Affairs
Miguel Labrador, Associate Chair of Graduate Affairs

Advising

William Hendrix III, CS/CpE Program Coordinator
Schinnel Small, IT Program Coordinator
John Morgan, Undergraduate Advisor

Staff

Laura Owczarek, Academic Services Administrator.
Gabriela Franco, Graduate Program Specialist
Lashanda Lightbourne, Undergraduate Program Specialist
Mayra Morfin, Undergraduate Program Specialist

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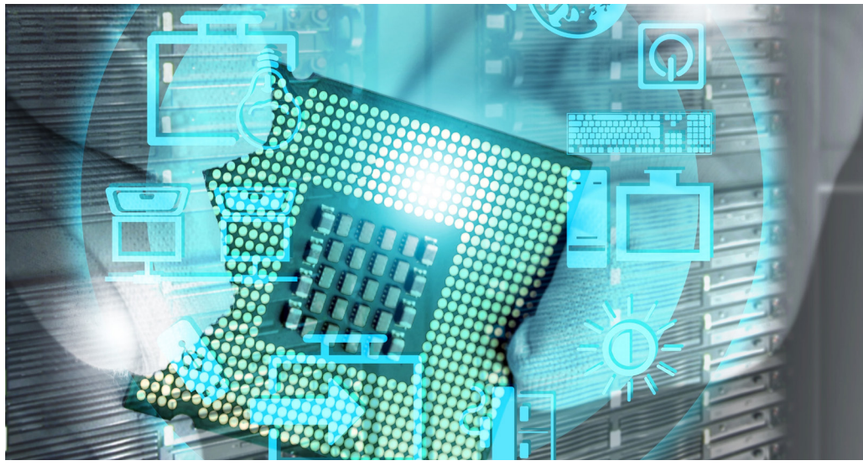
USF UNIVERSITY OF SOUTH FLORIDA
COLLEGE OF ENGINEERING

Department of Computer Science and Engineering

FACTS

2017 - 2018

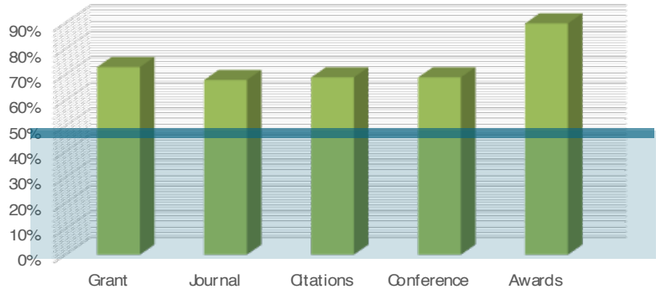


www.usf.edu/engineering/cse

Key Facts and Rankings

- The most recent US News & World Report ranked our Computer Engineering program in the 48th place among public universities and 77 out of 134 among all universities, public and private.
- The graduate Masters of Science in Information Technology program was ranked #14 for online IT programs by the 2016 US News & World Report.
- Research expenditures for fiscal year 2016/2017 totaled $2.6 million. This is above the national norm of $100,000 per tenure-track faculty of a public institution with 20-35 tenure-track faculty (2016 Taulbee Survey, CRA).
- The Department was ranked in the top one-third of all Computer Science programs by Research Quality in the 2010 National Research Council data-based assessment of research doctorate programs.
- USF CSE is in the top 16.5% (rank 30) of Computer Science departments at US public universities. (According to Academic Analytics 2016 based on Scholarly Research Index using default weights for grants, articles, conferences, awards, and citations)

Research Benchmarks

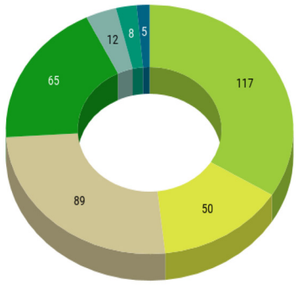


University of South Florida
National Median

Academic Analytics AAD, public universities, 2016.

2016-2017 Degrees Awarded

BS in Computer Science (117)
BS in Computer Engineering (50)
BS in Information Technology (89)
MS in Computer Science (65)
MS in Computer Engineering (12)
MS in Information Technology (8)
PhD in Computer Science and Engineering (5)



BS CS BS CpE BS IT MSCS MSCpE MSIT PhD

The BS in Cybersecurity program begins 2018 in collaboration with the College of Arts and Sciences, Muma College of Business, and USF Sarasota-Manatee.

Faculty Research Areas

A.I. and Cognitive Computing

- Computer Vision and Pattern Recognition
- Artificial Intelligence and Machine Learning
- Robotics
- Human Computer Interfaces
- Affective Computing

Cybersecurity

- Trustworthy Computing
- Network Security
- Smart Bio-devices
- Hardware Security
- Biometrics

Efficient Computing Platforms

- Computing Architecture
- VLSI
- Ubiquitous Sensing Networks
- Distrubted Computing
- Parallel Processing
- Biomedical Devices

Big-Data Algorithms

- Biomedical Imaging
- Machine Learning
- Databases
- Visualization
- Social Networks

Faculty Honors and Awards

- Fellows: 4 IEEE, 5 AAAS, 1 NAI, 2 AIMBE, 4 IAPR
- 10 CAREER Awardees
- 1 IEEE Norbert Weiner Award
- 1 IEEE Richard E. Merwin Award for Distinguished Service
- 1 ACM CCS Test of Time Award

Innovation, Patents, and Licenses

- 36 patents issued to faculty
- 36 US and foreign patent applications
- 7 copyrights
- 8 license/option agreements between FY12 - FY16
- 3 NSF I-Corps Team

Student Organizations

- Association for Computing Machinery (ACM)
- IEEE Computer Society (IEE - CS)
- Microsoft Developers Network (MSDN)
- Society of Competitive Programmers (SCP)
- Society of Hispanic Professional Engineers (SHPE-Tech)
- Whitehatters Computer Security Club
- Women in Computer Science and Engineering (WiCSE)

Recent Grants

S. Chellappan, "Human Behavior Assessment from Internet Usage: Foundations, Applications, and Algorithms," NSF

S. Chellappan, "Cellphone-Enabled Water Citizen Science for Data and Knowledge Generation, and Sharing: WatCitSci," NSF

S. Chellappan, "SaTC: CORE: Small: A Privacy-Preserving Meta-Data Analysis Framework for Cyber Abuse Research - Foundations, Tools and Algorithms," NSF

S. Chellappan, "Doolittle/Sofwerx Research Program," Doolittle Institute

K. Christensen and **R. Perez**, "Collaborative Florida IT Pathways to Success," NSF

D. Goldgof, "Informatics Tools for Optimized Imaging Biomarkers for Cancer Research & Discovery," Moffit Cancer Center/NIH

D. Goldgof and **L. Hall**, "Radiomics of Lung Screening CT Images," Moffit Cancer Center/NIH

D. Goldgof, **Y. Sun**, and **S. Sarkar**, "An Automated Pressure Ulcer Monitoring System to Improve Pressure Ulcer Outcomes for Veterans with SCI," DoD/Tampa Research & Education Foundation

A. Iamnitchi, "CAREER: Socially-Aware Disbributed Systems," NSF

A. Iamnitchi, **L. Hall**, and J. Skvoretz Jr., "DARPA: Modeling Information Diffusion Processes with Deep Learning Algorithms," DoD

A. Iamnitchi and J. Skvoretz Jr., "BIGDATA:IA:F: Structural Anoymization Techniques for large, Labeled and Dynamic Social Graphs," NSF

M. Labrador, "Extending Smart Home Technology for Cognitively Impaired Veterans to Delay Institutionalization," VA

M. Labrador, "An REU Site on Ubiquitous Sensing," NSF

M. Labrador, "I-Corp Teams: Travel Assistant Device," NSF

J. Ligatti, "Practical Improvements to Network Security Infrastructure," Impulse Point, LLC.

J. Ligatti and D. Oliveira, "Collaborative Authentication for the Internet of Things," Florida Center for Cybersecurity

J. Ligatti and G. Smith, "Cyber Resilience for Injection Attacks," Florida Center for Cybersecurity

J. Ligatti, **Y.Liu**, and **D. Goldgof**, "Analysis of Cryptographic Primitives and Protocols (for Virtual Tunneling Effect)," CBT Holding

Y. Liu, "Broadband High-Power Reactive Jamming Resilient Wireless Communication," Department of the Army

Y. Liu, "Power Grid Topology Inference with a basic for false data injection attacks," Griffiss Institute

Y. Liu, "CAREER: A Pathway to Virtual Channel Camouflage Wireless Security," NSF

Y. Liu, "Towards Wireless Physical Layer Security Leveraging Massive and Distributed MIMO Radios," U.S. Army Research Office

Y. Liu and **J. Ligatti**, "TWC:Small: Techniques and Tools for Enforcing Proximity-based Policies in Wireless Systems," NSF

X. Ou, "CAREER: Reasoning under Uncertainty in Cybersecurity," NSF

X. Ou, "SaTC: CORE: Small: Collaborative: Data-driven Approaches for Large-scale Security Analysis of Mobile Applications," NSF

X. Ou, "Modeling Security/Safety Interactions in Buildings for Compositional Security/Safety Control," DHS

X. Ou, "TWC SBE TTP: Medium: Bringing Anthropology into Cybersecurity," NSF

X. Ou, "Understanding and Quantifying the Impact of Moving Target Defenses on Computer Networks," AFOSR

R. Borum and **X. Ou**, "Developing Full Spectrum Cybersecurity Intelligence/Analytic Capabilities for the U.S. Army Reserve," NSA

Q. Zhang, **X. Ou**, et al., "CRISP Type 2: Integrative Decision Making Framework to Enhance the Resiliency of Interdependent Critical Infrastructures," NSF

P. Rosen, "CIF21 DIBBs: STORM: Spatio-Temporal Online Reasoning and Management of Large Data," University of Utah/NSF

P. Rosen, "III:Medium:Collaborative Research: Topological Data Analysis for Large Network Visualization," University of Utah/NSF

P. Rosen, "Managing and Operation of the National Radio and Astronomy Observatory FY 2010-2016," University of Utah/NSF

P. Sanberg, **S. Sarkar**, M. Fountain, and V. McDevitt, "I-Corps Site at Unversity of South Florida: Catalyzing Research Translation," NSF

S. Sarkar, "Ontology Based Perceptual Organization of Audio-Video Events Using Pattern Theory," NSF

S. Sarkar, "Body-Worn Camera Video Analysis for Law Enforcement Assistance," NSF

S. Sarkar and **M. Labrador**, "Active Authentication Using User Activity Data Collected Using Cellphones," DARPA/SRI

Y. Sun, " EAGER: Characterizing Physical Interaction in Instrument Manipulations," NSF

Y. Sun, "RI: Small: Functional Object-Oriented Network for Manipulation Learning," NSF

Y. Tu, "CAREER: Enabling high-throughput data management in scientific domains," NSF

Y. Tu, "Graphics Processing Unit- Based Data Management System Software," NSF

Y. Tu, **S. Sarkar**, **J. Ligatti**, S. Pandit, and S. Ghosh, "A Research Platform for Heterogeneous, Massive Parallel Computing," NSF

A. Weitzenfeld, "A Replay-Driven Model of Spatial Sequence Learning in the Hippocampus-PFC Network Using Reservoir Computing," NSF

A. Weitzenfeld, "RI: Medium: Collaborative Research: Experimental and Robotics Investigations of Multi-Scale Spatial Memory Consolidation in Complex Environments," NSF