Graduate Studies in Engineering and Computer Science at the University of Central Florida

Department of Computer Science
Dept. of Computer Science: Basic Facts

- 47 faculty = 37 T/TE Faculty + 10 Intstr./Lecturer
- Preliminary Fall 2017 Enrollments:

<table>
<thead>
<tr>
<th>Degree Program</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS Ph.D.</td>
<td>167</td>
</tr>
<tr>
<td>CS MS</td>
<td>116</td>
</tr>
<tr>
<td>MS Digital Forensics</td>
<td>100</td>
</tr>
<tr>
<td>MS Data Analytics</td>
<td>34</td>
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</tbody>
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Dept. of Computer Science: Top Ranked Research Areas

- Computer Vision and Image Processing (#6 in US)
- Virtual Reality (#19 in US)
- Human Computer Interaction (#20 in US)
- AI, Machine Learning, Data Analytics (#36 in US)
- Bioinformatics and Systems Biology (#41 in US)
- Networking and Mobile Computing (#52 in US)
- Software Engineering and Systems (#59 in US)
- Cyber Security and Privacy (#72 in US)
Dept. of Computer Science:
Other Research Areas

- Databases (#74 in US)
- Parallel Computation
- Computer Architecture
Dept. of Computer Science:
Rankings from csrankings.org

Overall: **57 in US** and 97 in world

- 33 in US for Interdisciplinary areas (59 in world)
- 36 in US for AI areas (71 in world)
- 72 in US for Systems areas (119 in world)
- 80 in US for Theory areas (169 in world)
Dept. of Computer Science:
Facts of Interest

Professional Society Fellows:

<table>
<thead>
<tr>
<th>Professor</th>
<th>IEEE Fellow</th>
<th>AAAS Fellow</th>
<th>Other Societies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mubarak Shah</td>
<td>√</td>
<td>√</td>
<td>2</td>
</tr>
<tr>
<td>Kien Hua</td>
<td>√</td>
<td></td>
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<tr>
<td>Avelino Gonzalez</td>
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</tbody>
</table>

6 NSF CAREER award winners
(Heinrich, LaViola, Sukthankar, Wocjan, Wang, Hu)

3 AFOSR YIP winners (Chatterjee, Sukthankar, Jha)

3 UCF Pegasus professors (Shah, Hughes, Hua)
Center for Research in Computer Vision (CRCV)

- Video Surveillance and Monitoring
  - Visual Tracking
  - Scene and Object Recognition
  - Human Activity Recognition
  - UAV Video Analysis

- Video Registration
- Video Categorization and Segmentation
- 3D reconstruction
- Content-based Video Retrieval
CRCV (Vision) Faculty

- Ulas Bagci: Medical Image Processing
- Ali Borji: Visual Attention and Search, Active Learning
- Boqing Gong: Domain Analysis, Transfer Learning
- Niels da Vitoria Lobo: Mobile Robotics, UI, Modeling
- Mubarak Shah: Video Surveillance & Monitoring, Video Registration, Video Segmentation, Video Retrieval
Other Image Processing & Vision Faculty

- Hassan Foroosh: Compressive Sensing, Hyperspectral Imaging (HSI), Target Classification, 3D/Stereo Video, UV imaging
- Kien Hua: Image/Video Retrieval, Live Video Computing
- Guo-Jun Qi: Machine Learning, Pattern Recognition
Machine Learning (ML) and AI Faculty

- Ladislau Boloni: Autonomous Agents, ML for Robotics
- Ken Stanley: Evolutionary Computation, Search, Machine Learning, Inventor of NEAT and HyperNEAT
- Gita Sukthankar: Robotics, Intelligent Agents, Activity and Plan Recognition
More ML and AI Faculty

- Fei Liu: Natural Language Processing, ML, Data Mining, Summarization
- Avelino Gonzalez: Human Behavior Representation, Contextual Reasoning, Knowledge-based Systems
- Annie S. Wu: Genetic Algorithms, Evolutionary Computation, Adaptive Systems
- Guo-Jun Qi: ML, Data Analytics
- Haiyan Hu, Wei Zhang: ML and Data Mining in Bioinformatics
**Human-Computer Interaction**

- Joseph LaViola: Pen-based UI, 3D UI, Post-WIMP UI
- Pamela Wisniewski: Social Media and Privacy, Adolescent Risk, Contextual Privacy in IoT
  - Multiple Best Paper awards in the *CHI* conference
Virtual Reality

  - TeachLiVE project used at over 50 universities
- Greg Welch (Nursing, IST, CS): Robotics, Healthcare, Simulations for training
- Avelino Gonzalez (CS): Human-realistic avatars
Avatar mediated interaction
Manifestations of surrogates
Applications to teacher practice, social skills, train the trainer, interview practice
MS in Data Analytics

- 30 credit hour degree
  - Joint with Statistics and IEMS
- Degree can be completed in 16 or 20 months
- Designed for working professionals
  - Classes at night near UCF
- Face to face instruction
- Focus on algorithmic/technical aspects of big data
Placement of CS PhD Graduates in Industry