Computer Science: Ph.D. Dissertation Topics

2015 Dissertation Titles

- Behavior-based Approaches for Detecting Cheating in Online Games
- From Big Data to Dynamic Decision Making: Models and Measures
- Proactive Detection of Higher-order Software Design Conflicts
- Incorporating Complex Defender/Adversary Objective Functions Into Security Games
- Sensing with Sound: Acoustic Tomography and Underwater Sensor Networks
- CORADMO: A Model to Estimate Schedule Acceleration in Agile Projects
- Modeling Social and Cognitive Aspects of User Behavior in Social Media
- Accurate 3D Model Acquisition from Imagery Data
- Scalable Parallel Processing of Spatial Queries
- Scalable Data Integration under Constraints
- Adaptive and Resilient Stream Processing at Scale
- A Framework for Runtime Energy Efficient Mobile Execution
- Building a Knowledgebase for Deep Lexical Semantics
- Cultural Models of Decision Making for Computational Agents
- Deriving Real-world Social Strength and Social Influence from Spatiotemporal Data
- Scalable Evacuation Routing in Dynamic Environments
- Not a Lone Ranger: Unleashing Defender Teamwork in Security Games
- Coordinating Social Communication in Human-robot Task Collaborations
- Learning Semantics of Structured Data Sources
- Model-driven Situational Awareness in Large-scale, Complex Systems
- Efficient Slam for Scanning LiDAR Sensors Using Combined Plane and Point Features
- Satisfying QoS Requirements Through User-system Interaction Analysis
- Tracking Multiple Articulating Humans from a Single Camera
- Iteratively Learning Data Transformation Programs from Examples
- WikiWinWin – A Wiki-based Collaboration Framework for Rapid Requirements Negotiations

2014 Dissertation Titles

- Incorporating Aggregate Feature Statistics in Structured Dynamical Models for Human Activity Recognition
- Benchmarking Interactive Social Networking Actions
- Task Clustering for Large-scale Scientific Workflows
- Data-driven Robotic Sampling for Marine Ecosystem Monitoring
- Risk-aware Path Planning for Autonomous Underwater Vehicles
- Using Optimized Active Measurements in Topology Study
- Socially Assistive Robotics for Older Adults: Methodologies for Motivating Exercise and Following Spatial Language Instructions
- Rapid Prototyping and Evaluation of Dialogue Systems for Virtual Humans
- City-Scale Aerial LiDAR Point Cloud Visualization
- A Framework for High-resolution, High-fidelity, Inexpensive Facial Scanning
Computer Science: Ph.D. Dissertation Topics

- Hybrid Methods for Robust Image Matching and Its Application in Augmented Reality
- Intelligent Robotic Manipulation in Cluttered Environments
- Toward Understanding Dynamic Behavior of Mobile Applications
- Probabilistic Framework for Mining Knowledge from Georeferenced Social Annotation
- Rendering for Autostereoscopic 3D Displays
- Density-based Searchspace-limited Subspace Clustering
- Learning Objective Functions for Autonomous Motion Generation
- Combining Textual Web Search with Spatial, Temporal and Social Aspects of the Web
- Elements of Next Generation Wireless and Mobile Systems: Millimeter-wave and Device-to-device Algorithms
- Deriving Component-level Behavior Models from Scenario-based Requirements
- Social Networking-based Collaborative Requirements Elicitation, Negotiation, Prioritization and Evolution
- The Power of Flexibility: Towards Agents That Conserve Energy in Commercial Buildings
- A Framework for Clustering Mixed Attributes Datasets
- Scalable Dynamic Analysis of Apps in Large Mobile Marketplaces
- Failure Prediction for Rod Pump Artificial Lift Systems
- Incremental Development Productivity Decline
- Computation in Class Groups and Residue Class Rings of Algebraic Function Fields over Finite Fields
- The Symbolic Working Memory System
- Improving Cyber-security Through Cyber-insurance: a Tale of Insurance Markets
- Utilizing Real-world Traffic Data for Forecasting Impact of Traffic Incident on Road Network
- Data-driven Autonomous Manipulation
- Unsupervised Detector Adaptation Methods for Object Detection
- Modeling the Effects of Emotional State on Decision-making
- Spherical Harmonic and Point Illumination Basis for Reflectometry and Relighting
- Sense and Sensibility: Statistical Techniques for Human Energy Expenditure Estimation using Kinematic Sensors
- Addressing Human Decision Making in Security Games: Models and Algorithms
- Transparent Caching In Cache Augmented Database Management Systems
- Plant Substructuring and Real-time Simulation Using Model Reduction
- Query Fast Data with Complex Event Processing