Projects for CS/IT

Java Base Project

- A wireless Intrusion detection system and a new attack model
- Evaluating the Vulnerability of Network Traffic Using Joint Security and Routing Analysis
- Truth Discovery with multiple Conflicting Information Providers on web
- Mitigating Performance Degradation in Congested Sensor Networks
- Face Recognition Using Laplacianfaces
- Selective Encryption of Still Image
- Distributed cache updating for the Dynamic source routing protocol
- A Precise Termination Condition of the Probabilistic Packet Marking Algorithm
- Distributed Collaborative Key Agreement and Authentication Protocols for Dynamic Peer Groups
- Controlling IP Spoofing Through Inter Domain Packet Filters
- Novel Secure Communication Protocol for Ad Hoc networks
- Dynamic Load Balancing in Distributed Systems in the presence of delays A regeneration theory Approach
- Efficient and Secure Content Processing and Distribution by Cooperative Intermediaries
- A Geometric Approach to Improving Active Packet Loss Measurement
- Securing User-Controlled Routing Infrastructures
- Peer to Peer Messaging System
- QUIVER Consistent Object Sharing For Edge Services
• Image Transformation using Grid
• Predictive Job Scheduling in a Connection Limited System using Parallel Genetic Algorithm
• Dynamic Load Balancing in Distributed Systems in the Presence of Delays : A Regeneration Theory Approach
• Modeling & Automated Containment of Worms
• Intrusion Detection in Homogeneous and Heterogeneous Wireless Sensor Networks
• A New, Efficient Coordinated Checkpointing Protocol combined with Selective Sender-Based Message Logging
• Spatio Temporal Network Anomaly Detection by Assessing Deviations of Empirical Measures
• Performance of a Speculative Transmission Scheme for Scheduling-Latency Reduction
• Re-Ordering Of Packets Using Retransmission Timer
• Incremental deployment service of Hop by hop multicast routing protocol
• ATM Networks and Intelligent Packet Filtering
• An Acknowledgment-Based Approach For The Detection Of Routing Misbehavior In MANET
• Multiple Routing Configurations for Fast IP Network Recovery
• ANGEL Enhancing the Utility of Generalization For Privacy Preserving Publication
• Randomized Protocol for Duplicate Elimination in Peer-to-Peer Storage System
• DEMONSTRATION OF SECURE SOCKET LAYER
• Network Border Patrol Preventing Congestion Collapse
• Clustering and Sequential Pattern Mining of Online Collaborative Learning Data
• Retrieving Files Using Content Based Searching
• A Signature-Based Indexing Method for Efficient Content-Based Retrieval of Relative Temporal Path
• XTC A Practical Topology Control Algorithm for Ad-Hoc Networks
• Virtual force based geometric routing protocol in MANET
• Protection of Database Security via Collaborative Inference Detection
• Rate & Delay Guarantees Provided By Close Packet Switches with Load Balancing
• Minimizing File Download Time in Stochastic Peer-to-Peer Networks
• Capturing Router Congestion and Delay
• Benefit Based Data Caching In Ad Hoc Networks
• Two Techniques for Fast Computation of Constrained Shortest Paths
• An Efficient Association Rule Mining Algorithm In Distributed Databases
• Structure and Texture Filling-In of Missing Image Blocks in Wireless Transmission and Compress
• ODAM An Optimized Distributed Association Rule Mining Algorithm
• Personal Authentication Using 3-D Finger Geometry
• Mobile Agents In a Distributed Multimedia Database System
• OCGRR - A New Scheduling Algorithm for Differentiated Services Networks
• Image Transport Protocol ITP
• Distributed Database Architecture for Global Roaming in Next-Generation Mobile Networks
Android Base Project

1) Emergency Call (incl. Video & Audio)

- This is an application that you activate before you might get into an emergency situation (i.e. before walking alone through a tunnel). Then you have to press a button (or a finger on the screen...) and as soon as you lift the finger from that button/screen, the device will send an emergency call to a friend/the police and send the current position, sound and video to another device or to an internet portal.

2) Tool to announce arrival

- This application would be activated by a calendar entry, showing that the phone user has an appointment somewhere (i.e. meeting friends in a town 2 hours away). The application would track the phones position and register that the user is on his way to the appointment (by checking if the user is following the route of Google maps to the destination). The phone would keep a status of whether the phone owner will arrive on time or be late. As soon as the user is on his way, the people being visited can check anytime if their friend will arrive on time (communication between the devices via a webpage or IM).

3) Geo Profile (similar to Locale by Clare Bayley, Carter Jernigan, Christina Wright, Jasper Lin)

- Call Filter

White list/Black list certain contacts from contacting you via (phone/VoIP/IM/SMS) depending on your current location.

- Ring tone

Set the ring tone depending on your current location and the person calling.

- Individual message for answering machine

Set an individual message for different locations.

- Messaging status

Set the messaging status automatically, depending on your current location.

4) Display Location when calling
- This application would be started every time there is an incoming call. If another android user is calling, then the other phone could transfer the current position (or situation, like "at work" or "at home"...,) to the phone being called. That way, the incoming call could be announced as "Girlfriend calling from work".

5) Handset Theft Monitoring

- This application sends the GPS-position of the device up to an internet portal. The last 2/4/6/24 hours are recorded. In case of a theft of the device, you can view where it was stolen and where the device is/was.

6) 24h tracking

- This application would track your positions constantly and save them on a well secured webpage. That way you can later go back to a specific day and find out where you were or view the pictures you took that day and follow the street where you took them. You could add text to certain time stamps or locations and keep a "log" of your life.

7) Product Wiki (similar to AndroidScan by Jeffrey Sharkey)

This application would require as input a unique identifier of a product, i.e. an EAN Number/Barcode. This would be used to lookup information about the product/the producing company on a publicly available "product wiki".

The application would then run the items information through your personal filter and return relevant information to the user, i.e.

- the item is produced using child labor

- the item is produced 100% in your home country

- the item contains gene food

- the item contains nuts (which you might be allergic against)

8) Delivery announcement / authorize strangers to localize you

- This application would need to be closely linked to a web service. You would register with your postal address and link it to your account with that service. After that everyone can request, only by providing your postal address, other contact details of you (i.e. Phone number, IM user,...) or send you a message or request.
This could be used to keep your contact's contact details up to date or would be very helpful for deliveries to your home. The logistics company (i.e. DHL) could ask via your address, if someone will be at home between 11am and 1 pm. This way the routes could be optimized, you would get your shipment quicker and the logistics company saves cost.

9) Switch connection dynamically

If two users try to contact each other, the phones could check in the background (via an IM connection for example) the preferred contact channel. So when you try to call a friend, the phones could automatically switch to a SIP/VoIP Connection, if both are in reach of a WiFi network, or the IM client could pop up, because the called person is in a meeting, not able to take the phone.
Matlab Projects

- A STUDY ON GAIT-BASED GENDER CLASSIFICATION
- SUBJECTIVE EVALUATION OF SPATIAL RESOLUTION AND QUANTIZATION NOISE TRADEOFFS
- A NO–REFERENCE OBJECTIVE IMAGE SHARPNESS METRIC BASED ON THE NOTION OF JUST NOTICEABLE BLUR (JNB)
- HISTOGRAM THRESHOLDING USING FUZZY AND ROUGH MEASURES OF ASSOCIATION ERROR
- ON COLOR TEXTURE NORMALIZATION FOR ACTIVE APPEARANCE MODELS
- LOCAL FEATURES FOR ENHANCEMENT AND MINUTIAE EXTRACTION IN FINGERPRINTS
- A FAST METHOD FOR AUTOMATED DETECTION OF BLOOD VESSELS AND LESIONS IN RETINAL IMAGES
- SEGMENTATION BY FUSION OF HISTOGRAM-BASED K-MEANS CLUSTERS IN DIFFERENT COLOR SPACES
- ESTIMATION OF MULTIPLE, TIME-VARYING MOTIONS USING TIME-FREQUENCY REPRESENTATIONS AND MOVING-OBJECTS SEGMENTATION
- JOINT EXACT HISTOGRAM SPECIFICATION AND IMAGE ENHANCEMENT THROUGH THE WAVELET TRANSFORM
- OPTIC DISC DETECTION FROM NORMALIZED DIGITAL FUNDUS IMAGE BY MEANS OF VESSELS DIRECTION MATCHED FILTER
- DEMOSAICING OF COLOR FILTER ARRAY CAPTURED IMAGES USING GRADIENT EDGE DETECTION MASKS AND ADAPTIVE HETEROGENEITY-PROJECTION
- ENHANCEMENT OF COLOR IMAGES BY SCALING THE DCT COEFFICIENTS
- REVERSIBLE INTEGER COLOR TRANSFORM
• GREY LEVEL REDUCTION FOR SEGMENTATION, THRESHOLDING AND BINARISATION OF IMAGES BASED ON OPTIMAL PARTITIONING

• ENHANCING DIGITAL CEPHALIC RADIOGRAPHY WITH MIXTURE MODELS AND LOCAL GAMMA CORRECTION

• HALFTONE VISUAL CRYPTOGRAPHY
IEEE Project

RING STRUCTURED PEER-TO-PEER OVERLAY NETWORKS USING CACHING SCHEME

DYNAMIC LOAD BALANCING WITH PROVABLE PERFORMANCE IN DISTRIBUTED HASH TABLE NETWORKS

OPPORTUNISTIC ROUTING WITH MANET ROUTING PROTOCOL

DELAY ANALYSIS FOR MAXIMAL SCHEDULING ALGORITHMS TO MINIMIZE THE QUEUE-OVERFLOW PROBABILITY

SCALE-FREE CHARACTERISTICS OF RANDOM NETWORKS AND MAXIMIZING RESTORABLE THROUGHPUT

SECURED MOBILE COMMUNICATIONS

GAME TRAFFIC ANALYSIS

ALGORITHM ATTACKING THE TOPOLOGY

LONG TIME NEIGHBOR SELECTION AND AVOIDING NODE SEPARATION FROM P2P NETWORK

SERVICES WITHOUT NETWORK TRAFFIC

IP FAST REROUTE USING RELAXED MRC

PEER-TO-PEER OVERLAY NETWORKS USING NP-COMPLETE FOR DYNAMIC MULTICAST PERFORMANCE MONITORING

A DECENTRALIZED METHOD FOR SCALING UP GENOME SIMILARITY SEARCH SERVICES
IEEE TRANSACTIONS ON SOFTWARE ENGINEERING
RELATIONSHIP BETWEEN SOFTWARE SIZE AND DEFECT PRONENESS
IEEE TRANSACTIONS ON MOBILE COMPUTING
AAA ACCOUNTING POLICIES IN MOBILE ENVIRONMENTS
EFFICIENT AUTHENTICATION IN MULTICAST NETWORKS
CACHE CONSISTENCY IN MOBILE ENVIRONMENTS
LOAD-AWARE ROUTING SCHEME
DISTRIBUTED AD HOC NETWORKS BASED ON SELF-PRUNING
EVALUATING CONTEXT INFORMATION PREDICTABILITY FOR AUTONOMIC COMMUNICATION
NON OVERLAP ROUTING IN WIRELESS NETWORK
IEEE BASED ON NETWORK SECURITY
RELIABILITY, ANONYMITY AND ACCOUNTABILITY IN PEER-TO-PEER TRUST MANAGEMENT SYSTEM
DDOS DEFENSE MECHANISMS FOR DETECTING, TRACING, AND MITIGATING NETWORK-WIDE ANOMALIES
EFFICIENT KEY MANAGEMENT IN MISSION-CRITICAL WIRELESS AD-HOC NETWORKS
PROCEDURE FOR INTER DOMAIN TRANSFER ENGINEERING
IDENTIFYING MALEVOLENT PACKET LOSS WHILE CONGESTION OCCURRED
KTR: AN EFFICIENT KEY MANAGEMENT SCHEME
IDENTITY ATTACKS
IEEE TRANSACTIONS ON DATA ENGINEERING (DATA MINING)
A NON-BLOCKING JOIN FOR RESULT RATE OPTIMIZATION.
A SECURE DISTRIBUTED ONLINE CERTIFICATION AUTHORITY AND DECENTRALIZED PEER TO PEER SYSTEMS.

ELIMINATING REDUNDANCY IN RECORDS

INTEREST-BASED PERSONALIZED SEARCH

THE BETA REPUTATION SYSTEM

CONTROLLING SKYLINE SIZES BY GROWING USER PREFERENCES

EXACT BORDER-BASED APPROACH FOR HIDING SENSITIVE INFORMATION

DELAY BOUNDED GENERAL RANGE QUERY

DATA FRESHNESS IN REPLICATED DATABASES

IEEE BASED ON GRID APPLICATIONS (GRID COMPUTING)

A FLEXIBLE PHASOR FOR GRID

GRID WORKLOAD PREDICTION

LOAD BALANCING IN GRID ENVIRONMENT

IEEE TRANSACTIONS ON DEPENDABLE AND SECURE COMPUTING

BOTNET TRACKING

IEEE TRANSACTIONS ON CLOUD COMPUTING

UP IN THE AIR: MOVING YOUR APPLICATIONS TO THE CLOUD
Cloud Computing Project Topics

IEEE TRANSACTION ON CLOUD COMPUTING

1. A Assertion Based Parallel Debugging
2. A Hybrid Shared-nothing/Shared-data Storage
3. Architecture for Large Scale Databases
4. A performance goal oriented processor allocation technique for centralized heterogeneous multi-cluster environments
5. A Petri Net Approach to Analyzing Behavioral Compatibility and Similarity of Web Services
6. A Privacy Preserving Repository for Securing Data across the Cloud
8. A Scalable Method for Signalling Dynamic Reconfiguration Events with OpenSM
9. A Segment-Level Adaptive Data Layout Scheme for Improved Load Balance in Parallel File Systems
10. A Sketch-based Architecture for Mining Frequent Items and Itemsets from Distributed Data Streams
11. A Trustworthiness Fusion Model for Service Cloud Platform Based on D-S Evidence Theory
12. Addressing Resource Fragmentation in Grids Through Network-Aware Meta-Scheduling in Advance
13. APP: Minimizing Interference Using Aggressive Pipelined Prefetching In Multi-Level Buffer Caches
14. ASDF: An Autonomous and Scalable Distributed File System
15. Automatic and Unsupervised Snore Sound Extraction From Respiratory Sound Signals
16. Autonomic SLA-driven Provisioning for Cloud Applications
17. BAR: An Efficient Data Locality Driven Task Scheduling Algorithm for Cloud Computing

18. Building an online domain-specific computing service over non-dedicated grid and cloud resources: the Superlink-online experience


20. Classification and Composition of QoS Attributes in Distributed, Heterogeneous Systems

21. CLOUD COMPUTING FOR LOOSELY COUPLED CLUSTERS.
Cloud MapReduce: a MapReduce Implementation on top of a 22. Cloud Operating System

23. CloudSpider: Combining Replication with Scheduling for Optimizing Live Migration of Virtual Machines Across Wide Area Networks


25. Data Integrity Proofs in Cloud Storage


27. Identity-Based Certificateless Proxy Signature


29. DELMA: Dynamically Elastic MapReduce Framework for CPU-Intensive Applications

31. Detection and Protection against Distributed Denial of Service Attacks in Accountable Grid Computing Systems
Development Inferring Network Topologies in Infrastructure as a Service Cloud

32. DHTbd: A Reliable Block-based Storage System for

33. High Performance Clusters

34. Diagnosing Anomalous Network Performance with Confidence

35. DIFFERENTIATING REGION-OF-INTEREST IN SPATIAL DOMAIN IMAGES.

36. Directed Differential Connectivity Graph of Interictal Epileptiform Discharges

37. Driver Drowsiness Managing distributed files with RNS in heterogeneous Data Grids
38. DYNAMIC RESOURCE ALLOCATION FOR TASK SCHEDULING AND EXECUTION.
39. Enabling Multi-Physics Coupled Simulations within the PGAS Programming Framework
40. Enabling Public Audit ability and Data Dynamics for Storage Security in Cloud Computing
42. EZTrace: a generic framework for performance analysis Failure Avoidance throughFault Prediction Based on Synthetic Transactions
43. Finite-Element-Based Discretization and Regularization Strategies for 3-D Inverse Electrocardiography
44. GeoServ: A Distributed Urban Sensing Platform Going Back and Forth Efficient Multideployment and Multisnapshotting on Clouds
45. GPGPU-Accelerated Parallel and Fast Simulation of Thousand-core Platforms
46. Grid Global Behavior Prediction
47. Heuristics Based Query Processing for Large RDF Graphs Using Cloud Computing
48. High Performance Pipelined Process Migration with RDMA
49. Improving Quality of High Dynamic Range Video Compression Using Tone-Mapping Operator.
50. Improving Utilization of Infrastructure Clouds
51. Modified Kinematic Technique for Measuring Pathological Hyperextension and Hypermobility of the Interphalangeal Joints
53. Multiple Services Throughput Optimization in a Hierarchical Middleware
55. Network-Friendly One-Sided Communication Through Multinode Cooperation on Petascale Cray XT5 Systems

56. Neural Control of Posture During Small Magnitude Perturbations: Effects of Aging and Localized Muscle Fatigue

57. Non-Cooperative Scheduling Considered Harmful in Collaborative Volunteer Computing Environments

On the Performance Variability of Production Cloud Services

58. On the Relation Between Congestion Control, Switch Arbitration and Fairness

On the Scheduling of Checkpoints in Desktop Grids

59. Optimal service pricing for a cloud cache

60. Parameter Exploration in Science and Engineering Using Many-Task Computing


63. Resource Allocation for Security Services in Mobile Cloud Computing

64. Resource and Revenue Sharing with Coalition Formation of Cloud Providers: Game Theoretic Approach

65. Robust Execution of Service Workflows Using Redundancy and Advance Reservations

66. Role-Based Access-Control Using Reference Ontology in Clouds

67. Secure and Practical Outsourcing of Linear Programming in Cloud Computing

68. SLA-based Resource Allocation for Software as a Service Provider (SaaS) in Cloud Computing Environments

69. Small Discrete Fourier Transforms on GPUs

Techniques for fine-grained, multi-site computation offloading

70. The Benefits of Estimated Global Information in DHT Load Balancing
71. Towards Real-Time, Volunteer Distributed Computing

72. Towards Reliable, Performant Workflows for Streaming-Applications on Cloud Platforms

73. Towards Secure and Dependable Storage Services in Cloud Computing

74. Utilizing “Opaque” Resources for Revenue Enhancement on Clouds and Grids

Weather data sharing system: an agent-based distributed data management.
IEEE Topic on Data Mining

1. IR-Tree: An Efficient Index for Geographic Document Search
2. A Fuzzy Self-Constructing Feature Clustering Algorithm for Text Classification
3. Anonymous Publication of Sensitive Transactional Data
5. Efficient Relevance Feedback for Content-Based Image Retrieval by Mining User Navigation Patterns
6. A Personalized Ontology Model for Web Information Gathering
7. A Unified Probabilistic Framework for Name Disambiguation in Digital Library
8. Improving Aggregate Recommendation Diversity Using Ranking-Based Techniques
9. One Size Does Not Fit All: Towards User- and Query-Dependent Ranking For Web Databases
10. Effective Navigation of Query Results Based on Concept Hierarchies
11. Data Leakage Detection
12. Bridging Domains Using World Wide Knowledge for Transfer Learning
13. TEXT: Automatic Template Extraction from Heterogeneous Web Pages
14. Mining Web Graphs for Recommendations
15. Horizontal Aggregations in SQL to Prepare Data Sets for Data Mining Analysis
16. Document Clustering in Correlations Similarity Measure Space
17. Scalable Learning of Collective Behavior
18. Query Planning for Continuous Aggregation Queries over a Network of Data
19. A Query Formulation Language for the Data Web
20. Scalable Scheduling of Updates in Streaming Data Warehouses
22. Optimal Service Pricing for a Cloud Cache
23. On the Complexity of View Update Analysis and its Application to Annotation Propagation
24. Exploring Application-Level Semantics for Data Compression
25. A Link Analysis Extension of Correspondence Analysis for Mining Relational Databases
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30. Query Planning for Continuous Aggregation Queries over a Network of Data Aggregators
31. A Query Formulation Language for the Scalable Scheduling of Updates in Streaming Data Warehouses
32. Publishing Search Logs - A Comparative Study of Privacy Guarantees
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