Dibyendu Mondal

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Education

Georgia Institute of Technology **Atlanta, GA**
Master of Science, Computer Science with specialization in Computer Graphics, **GPA: 4.0/4.0** Expected May 2019

Indian Institute of Technology Bombay **Mumbai, India**
Bachelor of Technology(Honors), Computer Science and Engineering 2013 - 2017

Publications

- Raksha Sharma, **Dibyendu Mondal**, Pushpak Bhattacharyya: *A Comparison among Significance Tests and Other Feature Selection Methods for Sentiment Analysis: A First Study*, CICLING 2017, Budapest, Hungary
- Raksha Sharma, **Dibyendu Mondal**, Pushpak Bhattacharyya: *Statistical Significance Tests and Its Impacts in Sentiment Analysis*, Accepted Tutorial in 13^{th} International Conference on Natural Language Processing, 2016

Research

Undergraduate Thesis: Reconstruction from multiple Depth Sensors

- Designed a system that scans a human body using low-cost commodity depth sensors like Kinect
- Robustly reconstructed a synthetic mesh of a person using these partial, noisy scans

Study of Significance Tests as Feature Selection Methods for Sentiment Analysis

- Studied and Compared various feature selection methods like TFIDF, Delta-TFIDF, Relief, χ^2 test and t-test
- Analyzed the impact of significance tests in In-domain, Cross-domain and Cross-lingual SA in various dataset
- Concluded that t-test is more promising than any other significance test or feature selection method

Experience

Real Time Mesh Simplification on GPU
University of Maryland

- Implemented a parallel version of the the Quadric Error Metric method to perform Mesh Simplification on GPU using CUDA
- Simplified the mesh in Real Time in under 100ms compared to the traditional 700ms for a serial implementation

Optimal NW Scheduling Strategies for Dense DSDS Deployment Scenarios
Samsung R & D Institute Bangalore

- Studied the behavior of secondary SIM in case of switching from one SIM to another in Dual SIM phones
- Used various probabilistic models to learn and predict the behavior of the secondary SIM

Teaching Assistant

- Courses: Computer Graphics, Software Systems Lab & Computer Programming and Utilization Lab
- Designed and evaluated labs, quizzes, exams & projects and conducted help sessions for a batch of around 150 students

Key Academic Projects

Mesh Tetrahedralization

- Computed the Delauney Tetrahedralization of two given clouds of balls located at two horizontal planes
- Computed a high-resolution water-tight triangle mesh that approximates the boundary of the union of balls

Procedural Modeling of Cities

- Created a parser for a grammar of a city and parsed it to create a syntax tree
- Iterated over the faces of a manually generated road network and probabilistically rendered different types of buildings

Music Classification based on Genre

- Developed a Music Genre Classifier, using Feed-forward Neural Network, for classifying music into pop, classical, metal, rock
- Studied different parameters like total error, sensitivity and specificity and achieved > 80% accuracy

Technical Skills

- **Programming Languages:** C++ | Python | Bash | Processing | C# | Java | SWI-Prolog
- **Web Development:** HTML5 | SQL | Django | Bootstrap | CSS | JavaScript | jQuery | Flask
- **Data Analysis:** PyBrain | NumPy | MATLAB | Torch
- **Others:** OpenGL | Unity3D | CUDA | Qt | PRMan | Gnuplot | LaTeX | Eclipse

Awards

- Undergraduate Research Award from IIT Bombay
- TA of the month Award from IIT Bombay

Leadership

- Represented CSE class of 2017 in Department UG Council and other Intra Dept. Events
- Co-organized various Hackathons by Microsoft, Facebook and Web and Coding Club, IIT Bombay