

Samia Kabir

College Station, TX



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Education

Master of Science| Computer Science
(August, 2017- May,2020)| Texas
A&M University, College Station,
Texas

Bachelor of Science| Computer
Science and Engineering (2015)|
Bangladesh University of Engineering
and Technology

Skills

Proficient in C/C++, JavaScript,
TypeScript, D3.js, React.js, Fabric.js,
HTML, CSS.

Working Experience in Java, PyTorch,
Node.js, MATLAB, OpenGL, C#, R,
PHP, SQL, Unity, Git.

Familiar with React.js,Ruby on Rails.

Award

Google Anita Borg Memorial
Scholarship, Asia Pacific,2014

Research Experience and Internship

Jan'20-May'20 Intern

SynchroGrid LLC, College Station, Texas

Working with the development team for the relay setting software SARA-3. Generating MHO graph visualization from relay sensor data.

Since Sept'18 Graduate Student Researcher

TAMU Graphics Lab, Texas A&M University, College Station, Texas

Visualized large volume of 3D microvasculature data of a mouse brain in virtual reality(Unity), designed a user study to experiment different spatial orientation and navigation techniques in virtual reality.

Sept'17-Aug'18 Graduate Research Assistant

Indie Lab ,Texas A&M University, College Station, Texas

Collaborated with two different research groups on developing user interface for explainable AI. Developed several information visualization systems i.e. Motion Encoded Graphs, Quantify user trust in AI. Designed and conducted user studies, conducted statistical analysis and assisted in publishing.

Aug-Nov'14 Intern

Samsung R&D, Bangladesh, Dhaka, Bangladesh

Assisted a team by documenting several features of Tizen in a Music application development project.

Research Projects

Since Oct'19

Particle piling behaviour based on support surface properties (C++, OpenGL, Physics Based Simulation) : This project focuses on how to simulation the stacking behaviour of particles given different shapes of support surface.

Since Sep'18

Spatial Orientation and Navigation inside Brain Network in VR (C#, Unity) : This project focuses on visualization of large volume of brain data in VR environment and experiments with several orientation and navigation techniques in large network like environment.

Sept'17-Aug'18

Understanding ML algorithms and accuracy (D3.js, JavaScript, HTML, CSS): This project generates interactive user interface for ML algorithms. Users can interact with the explanations produced by a complex ML algorithm and understand the underlying algorithm.

Nov'17-Aug'18

Graphical encoding of motion for quantitative data visualization (D3.js, HTML,CSS, JavaScript, R): This projects produces motion encoded graphs and experiments with how user perceives quantitative information encoded in such graphs.

Publications

2019

Nourani, M., Kabir, S., Mohseni, S., and Ragan, E. (2019). The Effects of Meaningful and Meaningless Explanations on Trust and Perceived System Accuracy in Intelligent Systems. AAAI Conference on Human Computation and Crowdsourcing (AAAI HCOMP).

2019

Roy, C., Shanbhag, M., Rahman, T., Gogate, V., Ruoizzi, N., Nourani, M., Ragan, E., and Kabir, S. Explainable Activity Recognition in Videos. Workshop on Explainable Smart Systems (ExSS), ACM Intelligent User Interfaces (IUI) Workshops 2019

2019

Roy, C., Nourani, M., Shanbhag, M., Kabir, S., Rahman, T., Ragan, E., Ruoizzi, N. and Gogate, V. (2019). Explainable Activity Recognition in Videos using Dynamic Cutset Networks. 3rd Workshop of Tractable Probabilistic Modeling (TPM 2019)

2017

Mehnaz Tabassum, Tanzima Hashem, and Samia Kabir. "A crowd enabled approach for processing nearest neighbor and range queries in incomplete databases with accuracy guarantee." Pervasive and Mobile Computing 39 (2017): 249-266

Class Projects

Fall'19	Rigid Body Simulation (C++,OpenGL)
Fall'19	Simulation of Cloth as a Spring Mass Damping System(C++,OpenGL)
Fall'19	Simulation of flocking behaviour on fish schooling system(C++, OpenGL)
Fall'19	PaperCrane: A temperature and humidity sensing motion actuated origami bird (Arduino, Cardboard Prototyping)
Jan-Apr'18	Visual-Query tool for NYC Taxi trip data (MATLAB, D3.js,JavaScript, HTML,CSS)
Sep-Dec'18	End-to-End Adversarial Retinal Image Synthesis (PyTorch)
Jan-Apr'19	Interactive Quadtree Visualization (JavaScript, D3.js)
Jan-Apr'19	FootBall Bingo (Ruby on Rails)
Jan-Apr'18	Interactive Storytelling (JavaScript, Node.js)
Sep-Dec'18	Implementation of SRRIP and simulation of benchmarks in zsim for LFU,LRU,SRRIP replacement policies.
Fall'17	Radiosity: Implementation of Radiosity algorithm for a scene rendering with progressive refinement (C++,OpenGL)
Fall'17	Cook-Torrance-BRDF : Rendering of different materials with Spectral Rendering and Cook-Torrance BRDF (C++, OpenGL)
Fall'17	Toon-Shading : A basic toon-shading implementation(C++,OpenGL)

Teaching Experience

Since Sept'18 Graduate Teaching Assistant

Department of Computer Science and Engineering, Texas A&M University

Assisted in teaching and grading of

CSCE 221: Data Structures and Algorithms for Fall'18, Spring'19 ,

CSCE 121: Introduction to Program Design and Concepts for

Summer'19 and CSCE 445: Computers and New Media for Fall'19 as a TA.

Oct'15-Jul'17

Department of Computer Science and Engineering, United International University, Dhaka, Bangladesh

Tutored undergraduate students in undergraduate C programming, Algorithms and Computer Architecture classes.

Related Course Works

Computer Graphics, Physically Based Modeling, Computational Geometry, Deep Learning in Computer Graphics, Analysis of Algorithms, Computer Architecture, Software Engineering, Data Visualization, Human Centered Seminar .

Organizations and Conferences

- Part of ACM SIGCHI chapter Texas A&M University(Fall'17-Summer'18)
- Memeber of AGGIE Graphics Group at Texas A&M(Since Fall'18)
- Attended GHC'18 with travel scholarship from Department of Computer Science, Texas A&M University
- Information Technology(IT) officer at Bangladeshi Student Association at Texas A&M University, College Station, Texas (2019-2020)

Volunteer Work

- Volunteered at Brazos Valley Worldfest (2019)