

Ayan Biswas

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Summary: working as a postdoctoral researcher at Los Alamos National Laboratory. Looking for full time opportunities.

Skill Set

| Competency | Details |
|--------------------------|-------------------------------|
| 1. Programming Languages | C, C++, Python, Java (& J2ME) |
| 2. OS | WindowsCE, Linux(Android) |
| 3. Parallel Programming | MPI, OpenMP, Thrust, CUDA |

Academic Background & Research Experience

The Ohio State University Columbus, OH
Ph.D., MS Computer Graphics and Data Visualization; GPA 3.94/4.0 December 2016
Uncertainty quantification, Big data visualization, Data Analytics,
Machine learning, Multivariate Analysis

Research: a) Analyze and visualize uncertainty in the simulation generated output, b) Use machine learning based techniques for uncertain feature extraction, c) Understand the multivariate relationships and simulation parameters, d) Work with large data sets for parallel streamline generation techniques, e) Work in collaboration with scientists and professors as part of NSF projects

Jadavpur University Kolkata, India
BE Computer Science and Engineering; GPA 8.85/10.0 June 2003-2007
Relevant Course Work: Graphics, Artificial Intelligence

Research: Undergraduate project with Prof. P.K.Das on “An SMS Based Application for Agricultural Consultancy”. This project provided a real life solution to query for price of crops at the local/remote market using the mobile devices through the support of local language. It required a middleware, database support and Java enabled mobile phone.

Work Experience

Los Alamos National Laboratory New Mexico, NM
Postdoctoral Researcher Jan 2017 – current

- Data analysis and visualization of ensemble data from simulations and experiments working with material scientists and statisticians
- Creating deliverables, writing papers and creating end-to-end workflow to meet the project deadlines and yearly reviews
- Achieved **8x speedup** on a gaussian process emulator and helped create an open source software version to meet project needs

Los Alamos National Laboratory New Mexico, NM
Summer Graduate Intern Researcher (May-Aug) 2012 – 2015

- Worked on projects with parallel streamline generation, R/Python based variable selection tool, Hadoop framework, multivariate relationship for the Parallel Ocean

Program data sets, and creating python scripts for Paraview for vector field visualization in multi processor environment with Dr. Jonathan Woodring.

STMicroelectronics
Software Engineer

Greater Noida, India
2007-2010

- Completed projects in Android and Windows operating systems for mobile devices.
- Written and tested video drivers ensuring quality and timely delivery of the product.

Teaching Experience

The Ohio State University
Teaching Assistant

Columbus, OH
Aug 2010 – May 2011

- Worked as teaching assistant for graphics, Microsoft Excel, and Microsoft Powerpoint classes to undergraduate students

Journal Publications:

- “Uncertainty Visualization Using Copula-Based Analysis in Mixed Distribution Model”, Subhashis Hazarika, Ayan Biswas, Han-Wei Shen, IEEE Transactions on Visualization and Computer Graphics 2017
- “Visualization of Time-Varying Weather Ensembles Across Multiple Resolutions”, Ayan Biswas, Guang Lin, Xiaotong Liu, and Han-Wei Shen IEEE Transactions on Visualization and Computer Graphics 2016
- “An Information-aware framework for Exploring Multivariate Datasets”, Ayan Biswas, Soumya Dutta, Han-Wei Shen, and Jonathan Woodring, IEEE Transactions on Visualization and Computer Graphics 2013

Selected Conference Publications (4 of 10):

- “Pointwise Information Guided Visual Analysis of Time-varying Multi-fields”, Soumya Dutta, Xiaotong Liu, Ayan Biswas, Jen-Ping Chen, and Han-Wei Shen, SIGGRAPH Asia Symposium on Visualization, 2017
- “A Scalable Streamline Generation Algorithm Using Parallel Flux-Based Stream Functions”, Ayan Biswas, Jonathan Woodring, Richard Strelitz, Chun-Ming Chen, and Han-Wei Shen, EGPGV 2016
- “Uncertainty Based Vortex Analysis and Detection Framework”, Ayan Biswas, Qi Deng, Wenbin He, Han-Wei Shen, David Thompson, Pacific Vis 2015
- “Evaluation of Stream Surfaces Using Error Quantification Metrics”, Ayan Biswas and Han-Wei Shen, SPIE VDA conference, 2014

Extra-curricular Activities

- Directed three short plays in annual cultural function at Columbus, Ohio
- Co-founder and first president of the “Buckeye Bengalis” student group at Columbus

If required, more details will be provided about the projects and publications.

Declaration: I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Place: Los Alamos, NM

(AyanBiswas)