Gaurav Baruah

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SUMMARY OF EXPERIENCE

- 4+ years in academia processing, modeling and running analyses over big data using C++, Python and R.
- Graduate research in search technology; devised a user simulation based evaluation for news filtering systems.
- 4+ years in the industry developing Linux applications using C/C++ and GTK for custom hardware devices and developing algorithms for computer-aided reverse engineering and quality control.
- Experience in developing web apps using the MEAN stack.

WORK EXPERIENCE

University of Waterloo, ON, Canada **Post-Doctoral Fellow** **Oct 2016 – present**

- Researching cost and quality improvements for automatic evaluation of timeline summarization systems.
- Collaborated in devising an active learning method to expedite procurement of relevance judgements required for evaluation of timeline summarization systems.

University of Waterloo, ON, Canada **Graduate Research Assistant** **Sep 2011– Aug 2016**

- Devised a search technology evaluation framework using *Python/Numpy* and *R* that incorporates models of user behavior to estimate the utility of news search/filtering algorithms.
- Developed a news search/filtering system using *C++/STL*, *Python* and *bash* to retrieve sentences relating to a news event (e.g. earthquake/storm) from a time-ordered stream of ~1 billion documents.
- Gained experience in processing large document collections like the KBA Stream Corpus (~7 TB compressed, ~1 billion web documents) and Clueweb12 dataset (~27 TB, 733 million web documents).
- Provided assessment and feedback to students as an Instructional Apprentice/Teaching Assistant.

Geodesic Limited, Bangalore, India **Lead Engineer** **Jul 2009 – Jul 2011**

- Led a team of 3 engineers to develop Linux applications using *C*, *C++*, *GTK*, *pthreads* and *PDF* libraries for prototype devices with 2 touchscreens designed for students and researchers.

Intellection Software and Technologies, Pune, India **Software Engineer** **Jun 2005 – Jul 2007**

- Designed and implemented edge-detection algorithms for images and 3D models using C++ for applications in quality control, reverse engineering and computer-aided design of mechanical parts.

Indian Institute of Technology, Bombay, India **Project Engineer** **Jul 2004 – Jan 2005**

- Developed a prototype application using *VC++* and *OpenGL* for the design and analysis of metal castings given a library of metallurgical data in XML format.

SELECT GRADUATE PROJECTS

- Developed a meta-search engine using *Java*, *Maven*, *MySQL* and *Google/Freebase APIs* that re-ranked search results and suggested related queries based on topics and facts contained in the resultant documents.
- Developed a Firefox plugin that highlights search query terms on a web page and enables auto-scrolling to highlighted sections. Surveyed users on the effectiveness of the plugin for ad-hoc search tasks.
- Developed a search engine for research papers using *node.js*, *MongoDB*, *angular.js* and *Elasticsearch*.
- Implemented a fixed vocabulary speech recognition system for basic UML constructs using HMMs.
- Trained various classifiers using *Weka* to infer the gender of tweeters.

EDUCATION

University of Waterloo, Ontario, Canada	Ph.D. in Computer Science	Aug 2016
Indian Institute of Technology, Guwahati, India	M.Tech. in Computer Science and Engineering	Jul 2009
University of Pune, India	B.E. in Computer Engineering	Jun 2004