# Jiaul Hoque Paik

Assistant Professor, IIT Kharagpur : Since 2016 Postdoctoral Research Associate, University of Maryland, College Park, USA : 2013 – 2016

PhD in Computer Science, ISI Kolkata : 2013

#### Awards

- 1. Research Excellence in Academia, Google USA, 2013
- 2. Best Research paper award, ACM SIGIR Theories in Information Retrieval, Delaware, USA, 2016

#### **Research Interests**

Machine Learning, AI, NLP, Search Engines, Big Data

#### Passion as an Academic

- 1) Building Mathematical and Computational models on data that are simple, stands on comprehensible theoretical foundation and withstand the test of rigorous experimental evaluation.
- 2) Writing non-trivial and efficient computer programs for large data.
- 3) Teaching a complex subject matter as intuitively as possible.

#### **Selected Publications**

- 1. Jiaul Paik, Yash Agrawal, Sahil Rishi, Vaishal Shah; Truncated Models for Probabilistic Retrieval, *ACM Transactions on Information Systems*, To appear.
- 2. Sudeshna Das, **Jiaul Paik**; Context-sensitive gender inference of named entities in text, *Information Processing and Management, Elsevier*, 2021
- 3. Nasreen, S., Roy, A. K., Joshi, P., Singh, N., Guha, R., **Jiaul Paik**. Assessment of Complexity Level in Decision Making: An Eye-Tracking Study. *IEEE EMBC*, 2019
- 4. Jiaul Paik; Parameterized Decay Model for Information Retrieval; *ACM Transactions on Intelligent Systems and Technology*, 2016.
- 5. Jiaul Paik, Jimmy Lin; Retrievability in API-Based "Evaluation as a Service"; ACM Conf. on Theories of Information Retrieval, Delaware, USA, 2016.
- 6. Jiaul Paik; A Probabilistic Model for Information Retrieval Based on Maximum Value Distribution; *ACM SIGIR*, 2015.
- 7. Ronan Cummins, **Jiaul Paik**, Yuanhua Lv; A Pólya Urn Document Language Model for Improved Information Retrieval; *ACM Transactions on Information Systems*, 2015.
- 8. Jiaul Paik, Doug Oard; A Fixed-Point Method for Weighting Terms in Verbose Informational Queries; ACM CIKM, 2014.
- 9. Jiaul Paik, Dipasree Pal, Swapan Parui; Incremental blind feedback: An effective approach to automatic query expansion; *ACM Transactions on Asian Language Information Processing*, 2014.
- 10. Jiaul Paik, Swapan Parui, Dipasree Pal, Stephen Robertson; Effective and Robust Query-Based Stemming; *ACM Transactions on Information Systems*, 2013.
- 11. Jiaul Paik, A novel TF-IDF weighting scheme for effective ranking; ACM SIGIR, 2013.
- 12. Jiaul Paik, Mandar Mitra, Swapan Parui, Kalervo Jarvelin; GRAS: An effective and efficient stemming algorithm for information retrieval; *ACM Transactions on Information Systems*, 2011.
- 13. Jiaul Paik, Dipasree Pal, Swapan Parui; A novel corpus-based stemming algorithm using cooccurrence statistics; *ACM SIGIR*, 2011.

14. Jiaul Paik, Swapan Parui; A Fast Corpus Based Stemmer; ACM Transactions on Asian Language Information Processing, 2011.

#### Teaching

- 1. Information Retrieval Systems, University of Maryland (Sole course instructor).
- 2. Machine Learning Foundations and Applications, IIT Kharagpur
- 3. Big Data Processing, IIT Kharagpur
- 4. Large Scale Search Engines, IIT Kharagpur
- 5. Educational Data Analytics, IIT Kharagpur
- 6. Knowledge Modelling and Sematic Technologies, IIT Kharagpur

# Projects

- 1. Behavior Modeling in Multi-Sensor Environments-Integrating Environment Sensing, Human and Social Sensing for Rich Insights Smart Classroom: Tata Consultancy Services Limited (**PI**) (47 lacs)
- 2. Integrated Information System and Knowledge Discovery Platform for ONGC : ONGC (PI) (3.5 crore)
- 3. Efficient Selective Search Architecture for Large Data (ISIRD) : IIT Kragapur (PI) (27 lacs)
- 4. Direct-To-Home (DTH) SWAYAM Prabha: Channel 13 (Computer Science & Engg.) : MHRD, Department of Higher Education, NMEICT, New Delhi (**PI, 2017-2021**) (**1.1 crores**)
- 5. Structural Utility of Migrant Labor Network: Analyzing COVID Disrupted Labor Market Network in the Informal Sector : CISCO University Research Program Fund (**Co-PI**) (**60 lacs**)
- 6. AWS:NAIRP : Creating a Collateral for Supporting Popular ML Applications on AWS Infrastructure through National AI Resource Platform Amazon Web Services, Inc : (Co-PI) (95 lacs)
- 7. Development of a Suite of Indigenous Assistive Systems and Tools for the Disabled Community in India, Dept of Energy and MHRD (Co-PI) (1.4 crores)
- Enhancing User Experience in Digital Library with Metadata Knowledge Graph, IBM India (Co-PI) (27 lacs)
- 9. Automated Evaluation and Feedback Generation for Personalized Learning, MHRD (Co-PI) (70 lacs)
- Setting-up of Teaching Learning Centre for Pedagogy Design & Research : MHRD (Co-PI) (5.8 crores)

## **Notable Collaborators**

I had the privilege and good fortune to work with the following two pioneers and Gerard Salton award winner (the highest international award in search engine) in search engine research.

- Stephen Robertson, Microsoft Research Cambridge (now retired)
- Kalervo Jarvelin, University of Tampere, Finland

## Program Committee Member

ACM SIGIR, ACM CIKM, World Wide Web Conf., AAAI