

Bodhisattwa Prasad Majumder

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Curriculum Vitae

Summary

Researched at R&Ds (Google, Microsoft, Facebook, Alan Turing Inst.) to build systems for hundreds of millions of users; Qualcomm Innovation Fellow and leader of UC San Diego team in Amazon Alexa Prize (2019-20) in building dialog systems;

Research Interests

Language Generation, Interactive and Conversational Systems, Interpretable Machine Learning

Education

2018 - Present **Ph.D. (with MS), Computer Science, University of California, San Diego.**

Advisor: Dr. Julian McAuley, Artificial Intelligence Group, CSE; **GPA:** 4.0/4.0

Thesis: Improving Language Generation with World and Commonsense Knowledge

2015 – 2017 **Masters Degree, Data Science, Indian Institute of Technology, Kharagpur.**

Major in Data Science & Machine Learning; Coursework at Indian Statistical Institute, Kolkata

GPA: 9.71/10; **Rank** – 1/51 (**Gold medalist/ Summa cum laude**)

Master's Thesis: Decoding consumer behavior in retail via statistical and deep learning frameworks

Advisor: Dr. Animesh Mukherjee, CSE, Indian Institute of Technology, Kharagpur

2011 – 2015 **Bachelor of Engineering, Electronics & Telecommunication Engineering, Jadavpur University.**

GPA: 9.48/10; **Rank** – 5/70

Bachelor Thesis at *Variable Energy Cyclotron Center, Bhaba Atomic Research Center*

Work Experiences

Jun 2021 – **Facebook AI Research, Research Intern.**

Sep 2021 ○ Advised by Y-Lan Boureau, working on dialog systems

Jun 2020 – **Microsoft Research (NLP Group), Redmond, Research Intern.**

Sep 2020 ○ Advised by Sudha Rao and Michel Galley; improving clarifying question generation (NAACL 2021)

Jun 2019 – **Google AI Research, Mountain View, Research Intern.**

Sep 2019 ○ Advised by Sandeep Tata and Marc Najork; Representation Learning; featured in [Google AI blog](#) (ACL 2020)

○ Intern spotlight in Google Engineering Newsletter; in production as a part of Google Cloud's [Document AI](#)

Jun 2017 – **Walmart Labs, Research Engineer.**

Jul 2018 ○ Co-led ML and Data Science Innovation team, developed multimodal neural-search for faceted product discovery

May 2014 – **Kansas State University, Research Scholar.**

Jul 2014 ○ Study of Multi-Agent Systems, Computational Mechanism Design, Double Auctions with Dr. Sanjoy Das

Book

○ **Practical Natural Language Processing**, O'Reilly Media, 2020 [\[Website\]](#)

Sowmya Vajjala, [Bodhisattwa P. Majumder](#), Anuj Gupta, Harshit Surana

Selected Publications

Please see [Google Scholar](#) for the complete list of publications

○ **ReZero is All You Need: Fast Convergence at Large Depth**

Thomas Bachlechner*, [Bodhisattwa P. Majumder](#)*, Henry Mao*, Gary Cottrell, Julian McAuley | *UAI*, 2021 [\[pdf\]](#)

○ **Unsupervised Enrichment of Persona-grounded Dialog with Background Stories**

[Bodhisattwa P. Majumder](#), Taylor Berg-Kirkpatrick, Julian McAuley, Harsh Jhamtani | *ACL*, 2021

○ **Ask what's missing and what's useful: Improving Clarification Question Generation using Global Knowledge**

[Bodhisattwa P. Majumder](#), Sudha Rao, Michel Galley, Julian McAuley | *NAACL*, 2021 [\[pdf\]](#)

○ **Like hiking? You probably enjoy nature: Persona-grounded Dialog with Commonsense Expansions**

[Bodhisattwa P. Majumder](#), Harsh Jhamtani, Taylor Berg-Kirkpatrick, Julian McAuley | *EMNLP*, 2020 [\[pdf\]](#)

- **Interview: Large-scale Modeling of Media Dialog with Discourse Patterns and Knowledge Grounding**
*Bodhisattwa P. Majumder**, Shuyang Li*, Jianmo Ni, Julian McAuley | *EMNLP, 2020* [pdf]
- **Bernard: A Stateful Neural Open-domain Socialbot**
Bodhisattwa P. Majumder, Shuyang Li, J. Ni, H. Mao, Sophia Sun, Julian McAuley | *Proc. of Alexa Prize, 2019* [pdf]
- **Representation Learning for Information Extraction from Form-like Documents**
Bodhisattwa P. Majumder, Navneet Potti, Sandeep Tata, James Wendt, Qi Zhao, Marc Najork | *ACL, 2020* [pdf]
- **Generating Personalized Recipes from Historical User Preferences**,
*Bodhisattwa P. Majumder**, Shuyang Li*, Jianmo Ni, Julian McAuley | *EMNLP, 2019* [pdf]
- **Improving Neural Story Generation by Targeted Common Sense Grounding**
Henry Mao, *Bodhisattwa P. Majumder*, Julian McAuley, Gary Cottrell | *EMNLP, 2019* [pdf]
- **Upcycle Your OCR: Reusing OCRs for Post-OCR Text Correction in Romanised Sanskrit**
Amrith Krishna, *Bodhisattwa P. Majumder*, Rajesh Bhat, Pawan Goyal | *CoNLL, 2018* [pdf]
- **An ‘Eklavya’ Approach to Learning Context Free Grammar Rules for Sanskrit using Adaptor Grammar**
Amrith Krishna, *Bodhisattwa P. Majumder*, Pawan Goyal | *World Sanskrit Conference, 2018* [pdf]
- **Deep Recurrent Neural Networks for Product Attribute Extraction in eCommerce**
*Bodhisattwa P. Majumder**, Aditya Subramanian*, Abhinandan Krishnan, S. Gandhi, Ajinkya More | *arXiv, 2018* [pdf]
- **What’s in a ‘Meme’? Understanding the Dynamics of Image Macros in Social Media**
Bodhisattwa P. Majumder, Amrith Krishna, Unni Krishnan, Anil K Boga, Animesh Mukherjee | *arXiv, 2018* [pdf]
- **An Efficient Iterative Double Auction for Energy Trading in Microgrids**
Bodhisattwa P. Majumder, M. Nazif Faquary, Sanjoy Das, Anil Pahwa | *IEEE CIASG, 2014* [pdf]

Selected Honors & Awards

- 2020: **Recipient** of **Friends of the International Center Fellowship**, UC San Diego, 2020
- 2020: **Recipient** of **Qualcomm Innovation Fellowship**, 2020 for North America
- 2020: **Nominated** by UC San Diego (one of three from Dept. of CSE) for Microsoft Research PhD Fellowship 2021
- 2020: **Featured** in **Google AI blog** for work at Google (2019) on extracting structured data from templatic documents
- 2019: **Nominated** by UC San Diego (one of two from Dept. of CSE) for Google PhD Fellowship 2020
- 2019: **Intern Spotlight** in Google-wide Engineering Newsletter for summer work on templatic document understanding
- 2019-2020: **Team Lead** for the finalist team Bernard, UC San Diego in **Amazon Alexa Prize**, awarded \$250,000 funding
- 2018-2019: **Department Fellowship**, PhD, Computer Science and Engineering, University of California, San Diego
- 2017: **Gold medal** and **Endowment** for the highest academic performance (Rank-1) in Master’s, IIT Kharagpur
- 2016: **Finalist, Data Science Game ’16**, Paris; Represented India (1 out of 3 teams), International Rank 14
- 2015: Endowed with **cash scholarship** for academic excellence (obtaining SGPA > 9.5), Indian Statistical Institute
- 2011-2015: **4-year scholarship** for academic excellence, Ministry of Human Resource & Development, India

Patents

- Sandeep Tata, *Bodhisattwa P. Majumder*, Qi Zhao, James Wendt, Marc Najork, Navneet Potti, “**A System for Information Extraction From Form-Like Documents**”, US Patent, 2020
- Diptarka Saha, Debanjana Banerjee, *Bodhisattwa P. Majumder*, “**REDCLAN - Relative Density based CLustering and Anomaly Detection**”, US Patent, 2018 [pdf]
- Anirban Chatterjee, *Bodhisattwa P. Majumder*, Gayatri Pal, Rajesh Bhat, Sumanth Prabhu, Vignesh S, “**Automated Extraction of Product Attributes from Images**”, US Patent, 2018 [pdf]
- A. More, A. Subramanian, *Bodhisattwa P. Majumder*, S. Gandhi, A. Krishnan, “**Method and System for Product Attribute Extraction from Product Titles using Sequence Labeling Algorithms.**”, US Patent, 2017 [pdf]
- Subhasish Misra, Arunita Das, Amlan Das, *Bodhisattwa P. Majumder*, “**Analytical Determination of Competitive Interrelationship between Item Pairs**”, US Patent, 2017 [pdf]

Outreach & Invited Talks

- **Program Committee** member as Reviewer: ICML, NeuRIPS, ACL, AACL-IJCNLP, INLG
- **Organizer** of SoCal Machine Learning Symposium, 2021, UCSD; **Mentor** at HDSI Undergraduate Scholarship Program
- **Invited Talks** at Microsoft Research (Redmond & India), INFORMS 2020, CSE Research Day at UC San Diego