Milind Agarwal

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EDUCATION	**Johns Hopkins University**	*Baltimore, MD*
	Combined B.S/M.S in Computer Science	2017-2021
	Additional Major: Applied Mathematics & Statistics	
	Junior year election to Upsilon Pi Epsilon	

INTERESTS

For my Ph.D., I am interested in working on problems in machine translation and NLP research with a focus on low-resource and endangered language settings.

RESEARCH PROJECTS

Low-Resource Machine Translation
Advisor: Prof. David Yarowsky
Dept. of Computer Science, JHU

- **Pronoun Discovery in over 1000 languages** — Summer 2020
  Helped construct a lexical database of pronouns cataloged by cross-lingual dimensions of meaning

- **Grapheme to Phoneme (GTP)** — Summer 2020
  Built a toolkit to enable conversion between IPA and XSAMPA to support the GTP project.

VowPal Wabbit, Microsoft Research — Summer 2020
Mentor: Marco Rossi, Principal Data Scientist

- **Contextual Bandit Data Visualization in VowPal Wabbit**
  Building visualizations to help understand the behavior of contextual bandit policies and logs.

COVID-19 Chatbot, Johns Hopkins CLSP — Spring 2020
Advisors: Prof. Joao Sedoc, Adam Poliak

- **QA Data Collection Effort**
  Worked on the scraping team for the QA Data Collection Effort and COVID-19 Chatbot

Computational Genomics
Advisor: Prof. Alexis Battle, Benj Shapiro
Dept. of Computer Science, JHU

- **Multiview Visualization Library** — Academic Year 2019-20
  Worked on designing multi-view data visualization pipelines.

- **Genomic Data Analysis** — Academic Year 2018-19
  Analyzed the METABRIC dataset to uncover novel subtypes of breast cancer.

Exome Data Analysis Software — Summer 2019
Advisor: Prof. Janet Markle
Johns Hopkins School of Public Health

- **WebSeq**
  Developed WebSeq, a web-app, as a robust pipeline to conduct whole exome sequencing analyses.

Seizure Visualization Software — Summer 2018
Advisor: Dr. Nathan Crone
Johns Hopkins Neurology

- **Epileptic Seizure Tracker and Visualizer**
  Developed a visualization toolkit to identify seizure patterns in data obtained from Apple Watch.

CONFERENCE POSTERS	**Milind Agarwal**, Alexis Battle. Multiplotlib: a python library for multi-view data visualization. Richard Tapia Conference. Sept 2020. [Poster]
	Milind Agarwal, Janet Markle. Web-Based Analytics for Genomic Data. Poster Presentation, Johns Hopkins CARES Symposium. August 2019. [Poster]
PAPERS	Adam Poliak, Max Fleming, Cash Costello, Kenton W Murray, Mahsa Yarmohammadi, Shivani Pandya, Darius Irani, **Milind Agarwal**, Udit Sharma, Shuo Sun, Nicola Ivanov, Lingxi Shang, Kaushik Srinivasan, Seolhwa Lee, Xu Han, Smisha Agarwal, João Sedoc. *Collecting Verified COVID-19 Question Answer Pairs.* EMNLP 2020. [Paper]
PREPRINTS	**Milind Agarwal**, Janet Markle. WebSeq: A Web-Based Analytics Portal for Genomic Data
IN-PROGRESS	Arya McCarthy, Winston Wu, James Scharf, **Milind Agarwal**, David Yarowsky. UniPron: Large-Scale Pronoun Typology from Hologeistic Marginalization.

FELLOWSHIPS AND AWARDS

Microsoft Open Source Fest Award   Summer 2020
$10000 funding offered by Microsoft to conduct research work on VowPal Wabbit
Project: Contextual Bandits Data Visualization using VowPal Wabbit

Richard Tapia Conference Scholarship   Summer 2020
Scholarship offered by Richard Tapia Conference for conference registration & accomodations
Project: Multiplotlib data visualization poster presentation

Joseph C. Pistritto Research Fellowshp   Academic Year 2019-2020
$6000 grant by JHU Dept. of Computer Science for cutting edge research in CS
Project: Visualization research for multi-view data (Battle Lab)

Provost Undergraudate Research Award   Summer 2019
$4000 research award to fund summer research at Markle Lab, BSPH.
Project: Developing WebSeq to find genetic causes of rare autoimmune disroders (Markle Lab)

TEACHING EXPERIENCE

Discrete Mathematics, Teaching Assistant   EN.550.171, JHU
Fall 2018 (Dr. Beryl Castello)
Spring 2019 (Dr. Fred Torcaso)

Discrete Mathematics, PILOT Leader   EN.550.171, JHU
Fall 2017 (Dr. Beryl Castello)

LINGUISTIC SKILLS

Note: *The last column mentions the script(s) I am trained to read/write in for that language.*

Native/Advanced

Germanic	English	
Indo-Aryan	Hindi, Urdu	हिन्दी, اردو
Romance	French	*français*

Intermediate

Indo-Aryan	Punjabi	ਪੰਜਾਬੀ, پنجابی
	Marathi	मराठी

Beginner

Sino-Tibetan	Mandarin Chinese	*zhōng wén*, 中文
Austronesian	Tagalog/Filipino	*tagalog*

MEMBERSHIPS

Access Computing for Students with Disabilities   Since Summer 2019

AccessComputing is an organization based out of University of Washington that assists students with disabilities to successfully pursue careers in computing .

Upsilon Pi Epsilon   Since Fall 2019

UPE International Honor Society for the Computing and Information Disciplines is the first honor society dedicated to the discipline of computer information systems and computer science.

Alpha Phi Omega   Spring 2019 - Fall 2019

Organization that does service around Baltimore.

PROFESSIONAL EXPERIENCE

Resident Advisor, McCoy Hall   Academic Years 2019-21

Residential Life, Johns Hopkins University

- Be prepared to help in any emergency at any time of day or night, as a part of the first response team for all residential students.
- Enforce community standards and university policy in residential halls, and work to create an atmosphere of respect, integrity, inclusivity, community, and leadership.

Flow Cytometry Assistant   Academic Year 2017-18

Supervisor: Hanhvy Bui

Integrated Imaging Center, JHU

- Carried out quality control, startup, shutdown, cleaning and maintenance of flow cytometry instrumentation (Sony SH800, FACSCalibur, FACSCanto)

INSTITUTIONAL SERVICE

Featured Content Creator   Academic Years 2017-19

Marketing and Communications Division, JHU Admissions

- Wrote monthly blogs for JHU Undergaduate Admissions to help with outreach for prospective student recruitment.

Director   Academic Years 2017-19

Residential Advisory Board, JHU

- Designed and executed large scale campus-wide programming in collaboration with Residential Life, Housing and Dining, Counseling Center, and off-Campus vendors.