



JACOB BREMERMAN

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Education

University of Southern California

Ph.D. in Computer Science

Aug. 2021 –

Los Angeles, California

University of Maryland

Master of Science in Computer Science

Aug. 2019 – May 2021

College Park, Maryland

University of Maryland

Bachelor of Science in Physics & Bachelor of Arts in Spanish

Aug. 2013 – May 2017

College Park, Maryland

Relevant Coursework

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|---|---|---|--|
| <ul style="list-style-type: none">• Data Visualization• Computer Vision• Computational Linguistics I & II• Machine Translation• Quantum Information | <ul style="list-style-type: none">• Processing• Phonology• Computational Psycholinguistics• Natural Language | <ul style="list-style-type: none">• Processing• Object-Oriented Programming• Applied Probability & Statistics | <ul style="list-style-type: none">• Spanish Linguistics• Linear Algebra• Advanced Calculus• Second-Language Acquisition |
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Academic Research Experience

INK Lab; University of Southern California

Research Assistant

Aug. 2021 –

Los Angeles, California

- Advisors: **Xiang Ren** and **Jonathan May**
- Work on multilingual natural language processing

CLIP Lab; University of Maryland

Research Assistant

Aug. 2019 – Jun. 2021

College Park, Maryland

- Advisor: **Douglas Oard**
- Work on new evaluation measures, collections and experiments of natural language processing and information retrieval tasks

Department of Linguistics; University of Maryland

Undergraduate Researcher

Aug. 2015 – May 2017

College Park, Maryland

- Mentor: **Sunhee Kim Fuji**
- Work on second-language acquisition for adult learners in immersion programs

Gemstone Honors Program; University of Maryland

Undergraduate Researcher

Aug. 2013 – May 2017

College Park, Maryland

- Mentor: **Bao Yang**
- Work on piezoelectric touchscreen design, prototyping and testing

Research Internship Experience

FASTPARSE Lab; Universidade da Coruña

Research Assistant

Jun. 2021 – Sept. 2021

A Coruña, Spain

- Mentor: **David Vilares Calvo**
- Work on incorporating explicit syntactic information in machine translation systems

HLTCOE; Johns Hopkins University

Research Intern

May 2020 – Aug. 2020

Baltimore, MD

- Mentor: **Matt Post**
- Scraped and processed audio and subtitle files for speech translation dataset
- Developed new evaluation measures for machine translation and tested them for correlation with existing measures

HLTCOE; Johns Hopkins University

Visiting Research Scholar

May 2019 – Aug. 2019

Baltimore, MD

- Mentors: **James Mayfield** and **Dawn Lawrie**
- Developed an information retrieval system that could handle named-entity queries and document term labels
- Helped organize the generation of an information retrieval test collection with named-entity markup.

Professional Experience

Honors College; University of Maryland

Oct. 2017 – May 2019

Program Coordinator

College Park, Maryland

- Helped run university honors programs in cybersecurity and entrepreneurship with administrative and advisory roles
- Managed a \$5M scholarship budget, advised dozens of undergraduate students, planned and ran workshops and events, led systematic program evaluation, etc.

Technical Skills

Languages: Python, bash, Java, HTML/CSS, JavaScript

Toolkits: Fairseq, PyTorch, Tensorflow, Scikit-learn, OpenCV

Developer Tools: VS Code, Google Cloud Platform, Android Studio

Technologies/Frameworks: Linux, GitHub, Galago, Elasticsearch

Other Skills

Languages: English (native), Spanish (fluent), French (near-fluent), German (conversational), Japanese (beginner)

Music: Bassoon, Clarinet, Piano, GarageBand

Art: Photoshop, Clip Studio, Procreate

Publications

- [1] [Jacob Bremerman](#) et al. Discovering and Generating Unknown Dimensions of Non-semantic Variation for Machine Translation Diversity. In *UNDER REVIEW*.
- [2] Elizabeth Salesky, Matthew Wiesner, [Jacob Bremerman](#), Roldano Cattoni, Matteo Negri, Marco Turchi, Douglas W. Oard, and Matt Post. **The Multilingual TEDx Corpus for Speech Recognition and Translation**, 2021.
- [3] [Jacob Bremerman](#), Huda Khayrallah, Douglas W. Oard, and Matt Post. **On the Evaluation of Machine Translation n-best Lists**. In *Proceedings of the First Workshop on Evaluation and Comparison of NLP Systems*, EMNLP, Online, November 2020. ACL.
- [4] [Jacob Bremerman](#), Dawn Lawrie, James Mayfield, and Douglas W. Oard. **Two Test Collections for Retrieval Using Named Entity Markup**. In *Proceedings of the 29th ACM International Conference on Information and Knowledge Management, CIKM '20*, New York, NY, USA, October 2020. Association for Computing Machinery.
- [5] Huda Khayrallah, [Jacob Bremerman](#), Arya D. McCarthy, Kenton Murray, Winston Wu, and Matt Post. **The JHU Submission to the 2020 Duolingo Shared Task on Simultaneous Translation and Paraphrase for Language Education**. In *Proceedings of the Fourth Workshop on Neural Generation and Translation*, pages 188–197, Online, July 2020. ACL.