(425) 737-3234 | mllcntl@gmail.com | https://millicentli.github.io/

EDUCATION	Northeastern University, Boston, MA Ph.D. in Computer Science NSF GRFP, Northeastern Ph.D. Fellowship Advised by Byron Wallace	Sep. 2022 - Present
	University of Washington , Seattle, WA B.Sc. in Computer Science Advised by Noah Smith, Shwetak Patel	2017 - 2021
PUBLICATIONS AND TALKS	 Peer Reviewed Publications and Preprints [1] Todd, E., Li, M., Sen Sharma, A., Mueller, A., LLMs Represent Contextual Tasks as Compact Fundamental Contextual Tasks and Compact Fundamental Contextual Tasks and Compact Fundamental Compact FundamentaC	Wallace, B., Bau, D. (2023). action Vectors. In submission.
	[2] Shaib, C., Li, M., Sebastian, J., Marshall, I., Li, J., Wallace, B. (2023). Sum- marizing, Simplifying, and Synthesizing Medical Evidence using GPT-3 (with Varying Success). ACL 2023.	
	[3] AlKhamissi, B.*, Li, M.*, Celikyilmaz, A. [^] , Diab, M. [^] , and Ghazvininejad, M. (2022). A Review on Language Models as Knowledge Bases. arXiv preprint arXiv:2204.06031. * denotes equal contribution, [^] denotes equal supervision	
	[4] P. S. Ruth, J. Cao, M. Li, J. Sunshine, E. Wang, S. Patel, "Multi-Channel Facial Photoplethysmography Sensing," Accepted to EMBC 2020 on April 10, 2020.	
	Talks[A] "Continuous Arterial Blood Pressure Prediction with Deep Learning Algorithms," in the UW Undergraduate Research Symposium, May 2020.	
RESEARCH EXPERIENCE	Facebook AI Research A AI Resident A Advised by Marjan Ghazvininejad and Mike Lewis Empirical natural language processing research, where the second sec	August 2021 - September 2022 with a focus on pretrained lan-
	guage modeling, knowledge graphs, and prompting.Work on evaluating language model capabilities to improve upon its own outputs using prompting	
	• Preprint on "A Review on Language Models as Knowledge Bases" [3] in review at JAIR.	
	Microsoft Research Research Intern Advised by Tristan Naumann • Developed benchmarks for biomedical and clinica	May 2021 - July 2021 al natural language processing
	tools, such as SciSpaCy and Stanza	
	Noah's ARK Bias in Medical Summarizations	March 2020 - July 2021

Co-advised by Ana Marasovic and Noah Smith

• Led the development of debiasing methods for state-of-the-art clinical and healthcare summarization models like BART using Huggingface

• Quantified and experimented with existing bias in BART through language modeling tasks

Probing T5

Co-advised by Ana Marasovic and Noah Smith

- Experimented with developing methods to probe the text-to-text transfer transformer (T5) with multiple probing tasks using only a single model
- Created tests to analyze the proficiency of T5 and existing Seq2Seq models to learn both control and non-control tasks

Ubiquitous Computing Lab

June 2016 - March 2021

Co-advised by Richard Li, Matt Whitehill, Shwetak Patel

- Led the development of brain-computer interaction methods to understand human speech by examining areas of the motor cortex
- Prototyping with EEG and fNIRS hardware with small user studies to validate feasibility
- Awarded the Washington Research Foundation Fellowship for accomplishments

Multi-Channel Facial Photoplethysmography

Co-advised by Parker Ruth and Shwetak Patel

- Developed deep learning and algorithmic methods for non-invasive and consistent blood pressure (BP) prediction from noisy vital signs PPG sensor data
- Fabricated a pressure sensor system to potentially infer BP from pressure changes
- Created several techniques gleaned from audio-based approaches to utilize neural networks and Fourier transforms for signal filtering and prediction
- Awarded the Mary Gates Research Scholarship for accomplishments
- Presented at UW Ugrad Research Symposium [A] and published at EMBC [1]

HemaApp: Noninvasive Blood Screening of Hemoglobin Using Smartphone Cameras Co-advised by Edward Wang and Shwetak Patel

- Spearheaded the design of data collection and analysis tools for HemaApp, a smartphone application that detects hemoglobin levels
- Created a module to quickly collect data while preserving user anonymity, intended to be used by users without technical experience

MedicPedsOne: Quick Medical Reference

Co-advised by Lilian de Greef and Shwetak Patel

- Created a user interface through an iterative process for an application to help first responders react to emergency situations as quickly as possible
- Developed a wireframe for the potential application interfaces and user tested the model on several individuals through user studies

Anomaly Detection in Electronic Systems

Co-advised by Manoj Gulati and Shwetak Patel

- Developed and fabricated a novel tool for anomaly detection in electronic devices using PCB designs and several sensors, including accelerometers and gyroscopes
- Created scripts for Bluetooth data collection on the LightBlue Bean that outperformed the speed of collection for the standard Arduino
- Designed multichannel data visualizations in Python to visualize minute changes

	 Integrated Brain Imaging Center Autism Prediction with Fast.ai Advised by Tara Madhyastha Implemented a logistic regression algorithm to classible being born might have autism using fMRI data 	Aug. 2018 - Dec. 2018 ify whether a baby before		
	• Learned how to use neural networks through the fast.ai library to simplify deep learning for discerning features in fMRI data			
INDUSTRY EXPERIENCE	GoogleSoftware Engineering InternWorked with the ACE Ranking team to build a more ranking model that incorporates user feedback to ranking model that incorpor	June 2020 - Sep. 2020 e robust machine learning ık queries on Assistant.		
	 Google Engineering Practicum Intern Worked with the Android Auto team on Assistant, mission messages and fan direction capabilities in Ar 	June 2019 - Sep. 2019 adding non-intrusive per- adroid Auto vehicles.		
HONORS	 NSF Graduate Research Fellowship NSF Graduate Research Fellowship Honorable Mer Washington Research Foundation Fellowship Competitive fellowship for academic merit for student independent research at the University of Washington 	ntion 2022 2021 2020 as undertaking and leading n		
	Mary Gates Research Scholarship 2020 Competitive award for academic merit for students undertaking advanced re- search at the University of Washington			
	Google Grace Hopper Travel Scholarship Paul G. Allen School Grace Hopper Travel Scholar Washington NASA Space Grant Finalist Washington State Opportunity Scholarship Denice Dee Denton Endowment Scholarship Anderson Family Endowed Scholarship Google Endowed Scholarship NCWIT Seattle and West Affiliate Award Winner Direct Admit to the Paul G. Allen School of Comp	2019 2018 2017 2017 2017 2017 2017 2017 2017 2017		
LEADERSHIP	 UW CSE Student Advisory Council At-Large Representative Advocate for undergraduate students in the compute ethics, diversity, and outreach through events and ac 	June 2019 - Present r science department over tion		
	 Chaired the Undergraduate Research Panel to encourage 30+ undergraduates to pursue research in computing Adapted undergrads to online courses through COVID 10 initiatives 			
	 UW Undergraduate Research Program Undergraduate Research Leader Provide outreach to First-Year Interest Groups (FI research through presentations and answering question) 	Aug. 2020 - Present Gs) about undergraduate ons.		

TEACHING EXPERIENCE	Instructor CSE 590U, Graduate Ubiquitous Computing Seminar	Fall 2020, Winter 2021
	Teaching Assistantships CSE 351, Hardware/Software Interface CSE 332, Data Structures and Algorithms CSE 142, Introduction to Programming	Fall 2019, Spring 2020 Winter 2020 Fall 2018, Winter 2018
	Curriculum Development Microsoft edX: Introduction to Device Programming	Winter 2018
	Other Teaching AID Taiwan Volunteer English Teacher	Summer 2018