

# Mehmet Furkan Demirel

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CONTACT INFORMATION	Department of Computer Sciences University of Wisconsin–Madison 1210 W Dayton St. Madison, WI 53706	demirel@cs.wisc.edu cs.wisc.edu/~demirel github.com/mehmetfdemirel
EDUCATION	<b>University of Wisconsin–Madison</b> , Madison, WI M.S., Computer Science, GPA: 3.90 May 2021 <b>DePaul University</b> , Chicago, IL B.S., Mathematics and Computer Science Summa Cum Laude - GPA: 3.95 June 2018	
EXPERIENCE	<b>Meta</b> , New York City, NY Software Engineer Intern Sep. 2022 - present <ul style="list-style-type: none"><li>Working on news recommendation on FB</li></ul> <b>Google</b> , New York City, NY Software Engineer Intern May 2022 - Aug. 2022 <ul style="list-style-type: none"><li>Worked on supporting premium live streams on YouTube</li></ul> <b>University of Wisconsin - Madison</b> , Madison, WI Graduate Teaching/Research Assistant Aug. 2018 - present <ul style="list-style-type: none"><li>Currently working on graph neural networks and representation learning</li><li>Awarded research grant for Summer 2019 by the department</li></ul> <b>DePaul University</b> , Chicago, IL Undergraduate Research Assistant June 2017 - Nov. 2017 <i>advised by Enrico Au-Yeung</i> <ul style="list-style-type: none"><li>Developed a dimensionality reduction algorithm that can generate lower-dimensional increasingly-fine covers of a high-dimensional manifold—while maintaining its general structure</li><li>Presented research to faculty and students at DePaul’s Research Showcase event in Nov. 2017</li></ul>	
JOURNAL PUBLICATIONS	<ul style="list-style-type: none"><li><b>Attentive Walk-Aggregating Graph Neural Networks</b> Mehmet F. Demirel, Shengchao Liu, Siddhant Garg, Zhenmei Shi, Yingyu Liang Transactions on Machine Learning Research (TMLR), 2022</li><li><b>Graph Neural Networks for an Accurate and Interpretable Prediction of the Properties of Polycrystalline Materials</b> Minyi Dai, Mehmet F. Demirel, Yingyu Liang, Jia-Mian Hu npj Computational Materials, 2021</li></ul>	
CONFERENCE PUBLICATIONS	<ul style="list-style-type: none"><li><b>N-Gram Graph: Simple Unsupervised Representation for Graphs, with Applications to Molecules</b> Shengchao Liu, Mehmet F. Demirel, Yingyu Liang Neural Information Processing Systems (NeurIPS), 2019 (Spotlight).</li></ul>	
TALKS/PRESENTATIONS	<ul style="list-style-type: none"><li>Lab Meeting: <b>”In-Context Learning”</b></li><li>Lab Meeting: <b>”Foundation Models”</b></li></ul>	Oct 12, 2021 Sep 23, 2021

- Qualifying Exam: "Walk Aggregation Graph Networks" **Jan 13, 2021**
- IFDS Ideas Forum: "N-Gram Graph" **Dec 21, 2020**

ACADEMIC ACTIVITIES

- Reviewer for AISTATS, ICML, NeurIPS, DGM4HSD (ICLR), AI for Science (ICML) **2022**
- Reviewer for AI for Science: Mind the Gaps, a NeurIPS 2021 workshop **2021**

TEACHING EXPERIENCE

**Teaching Assistant**

- CS 310, **Problem Solving for Engineers**, University of Wisconsin–Madison **Spring 2020**
- CS 540, **Intro to Artificial Intelligence**, University of Wisconsin–Madison **Fall 2019**
- CS 310, **Problem Solving for Engineers**, University of Wisconsin–Madison **Spring 2019**
- CS 240, **Intro to Discrete Mathematics**, University of Wisconsin–Madison **Fall 2018**

TECHNICAL SKILLS

Python · Java · PyTorch · Tensorflow · Git  
 Android Development · MATLAB · Linux · Bash

PROJECTS

**Post-Disaster Damage Assessment with Computer Vision** **Oct. 2019 - Dec. 2019**  
<https://github.com/mattdutson/xview2>  
 Working on using computer vision and deep learning for the assessment of building damage in the aftermath of natural disasters to participate in the xView2 competition ([xview2.org](http://xview2.org)).

**Construction of 3D CT-Scan from 2D X-Ray** **Feb. 2019 - May 2019**  
<https://sites.google.com/view/cxr2ct>  
 Developed a neural network to construct 3D computed tomography scans from 2D X-ray scans, which included the task of creating synthetic X-rays from real CT scans to be used for training.

HONORS AND AWARDS

- Golden Brick Award, *UW-Madison, Department of Computer Sciences* **2019, 2020, 2021, 2022**
- Teaching Award, *UW-Madison, Department of Computer Sciences* **2020**
- Summer Research Assistantship Award, *UW-Madison, Department of Computer Sciences* **2019**
- First Year Computer Science Scholarship, *UW-Madison, Department of Computer Sciences* **2018**
- Undergraduate Research Assistantship Grant, *DePaul University* **2017**
- Presidential Mission Scholarship, *DePaul University* **2017**
- Mathematics Scholarship Award, *DePaul University* **2016, 2018**
- Scholars' Award, *DePaul University* **2013**
- Ranked 476th among 1.8 million in the Turkish National University Exam **2013**
- Bronze medalist at the INFOMATRIX International Programming Competition **2012**
- Silver medalist at the TUBITAK Project Competition in Ankara, Turkey **2011**

SERVICE

**Student Association for Computing Machinery (SACM)**

- Chair, Communications Team **Aug. 2019 - Sep. 2021**
- Email Propagandist, Communications Team **Sep. 2018 - May 2018**

Served the Madison chapter of the Association for Computing Machinery. As SACM, we organize events and activities that benefit the community of CS graduate students.