

# Mehmet Arif Demirtas

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## Education

### University of Illinois Urbana-Champaign

Aug 2023 – (Exp.) May 2028

Ph.D., Computer Science

- **Thesis Advisor:** Dr Katie Cunningham
- **Research Interests:** Computer Science Education, Human-Computer Interaction

### Istanbul Technical University

Sep 2018 – Jan 2023

BSc., Computer Engineering

- **Thesis Project:** *Automated Realistic Lip Sync Generation for Unconstrained Videos*, advised by Dr Hazim Kemal Ekenel

## Experience

### Research Engineer

London, UK (Remote)

Vitamu

April 2022 – June 2023

- Trained breast cancer detection and localization algorithms using **PyTorch** in a startup environment
- Trained and deployed deep learning models with **FastAPI** on **Google Cloud** for inference
- Migrated development architecture from **AWS** to **Google Cloud** and refactored development environments

### R&D Engineer

Istanbul, Turkey

Yapi Kredi Teknoloji

Aug 2021 – April 2022

- Worked in the **NLP** team of the R&D department of Turkey's third largest bank
- Contributed to a ML pipeline written with **PyTorch** that processes more than 10k documents per day
- Integrated new classifiers into the existing microservice architecture with **Java**
- Designed a novel approach for parsing multi-page documents with multimodal embeddings, presented at **ICPR 2022**

## Selected Publications

### PLAID: Supporting Computing Instructors to Identify Domain-Specific Programming Plans at Scale

2025 ACM Conference on Human Factors in Computing Systems (CHI 2025)

Yoshee Jain\*, Mehmet Arif Demirtas\*, Kathryn Cunningham

### Validating, Refining, and Identifying Programming Plans Using Learning Curve Analysis on Code Writing Data

2024 ACM Conference on International Computing Education Research (ICER 2024)

Mehmet Arif Demirtas, Max Fowler, Nicole Hu, Kathryn Cunningham

### Reexamining Learning Curve Analysis in Programming Education: The Value of Many Small Problems

17th International Conference on Educational Data Mining (EDM 2024)

Mehmet Arif Demirtas, Max Fowler, Kathryn Cunningham

### Semantic Parsing of Interpage Relations

26th International Conference on Pattern Recognition (ICPR 2022)

Mehmet Arif Demirtaş, Berke Oral, Mehmet Yasin Akpınar, Onur Deniz

### Predicting cognitive scores with graph neural networks through sample selection learning

Brain Imaging and Behavior 16, 3 (2021)

Martin Hanik\*, Mehmet Arif Demirtaş\*, Mohammed Amine Gharsallaoui, Islem Rekik

## Skills

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**Code & Technologies:** Python, PyTorch, JavaScript, C++/C, HTML/CSS, Docker, Bashscript, AWS/Cloud Technologies

**Research Methods:** Mixed Methods Research, Semi-structured Interviews, Think-aloud Studies, Educational Data Mining, Student Modeling

## Professional Development

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**Panel,** SIGCSE Virtual 2024

*December 2024*

- Moderated the panel *Challenges and Solutions for Teaching Decomposition and Planning Skills in CS1*, with Dr Eliane S Wiese, James Finnie-Ansley, Dr Rodrigo Duran, Dr Kathryn Cunningham

**Doctoral Consortium,** EDM 2024

*July 2024*

- Attended the doctoral consortium program at EDM 2024, led by Dr Neil Heffernan
- Presented *Identifying and Evaluating Novel Knowledge Component Models for Programming Skills* as a poster

**Doctoral Consortium,** SIGCSE Virtual 2024

*December 2024*

- Attended the doctoral consortium program at SIGCSE Virtual 2025, led by Dr Colleen Lewis and Dr Lauri Malmi

## Teaching & Service

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**Lecturer,** ITU ACM Student Chapter

*Sept 2022 - Dec 2022*

- Held introductory Python lectures and supervised hands-on tutorial sessions for more than 100 students.

**Guide & Mentor,** [inzva.com](https://inzva.com) 

*Oct 2021 - Nov 2022*

- Contributed to Google Developers Machine Learning Bootcamp and deep learning study groups at inzva hackerspace in Istanbul
- Gave lectures on object detection, face recognition, and neural style transfer to more than 100 students as part of the bootcamp
- Mentored more than 30 students in 4-week periods over a year