

# Muhammed Ugur

meugur.github.io  
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## EDUCATION

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### Yale University

*Ph.D. in Computer Science*

New Haven, CT

*Aug. 2022 – Present*

### University of Michigan

*M.S. in Computer Science and Engineering*

Ann Arbor, MI

*Sep. 2020 – May 2021*

### University of Michigan

*B.S. in Computer Science with Honors, Minor in Mathematics*

Ann Arbor, MI

*Sep. 2016 – May 2020*

Thesis: *Feasibility of Client-side Browser Script Rewriting*

Advisor: *Prof. Harsha Madhyastha*

## RESEARCH

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Areas: Computer Architecture, Operating Systems, Compilers, Programming Languages, Machine Learning  
Topics: Hardware/Software Co-Design, Accelerators, Brain-Computer Interfaces, Profile-guided Optimizations

## Conference Publications

- [1] *SCALO: An Accelerator-Rich Distributed System for Scalable Brain-Computer Interfacing*, Karthik Sriram, Raghavendra Pradyumna Pothukuchi, Michal Gerasimiuk, **Muhammed Ugur**, Oliver Ye, Rajit Manohar, Anurag Khandelwal, and Abhishek Bhattacharjee [**ISCA 2023**]  
**Best Paper Award Winner**
- [2] *Whisper: Profile-Guided Branch Misprediction Elimination for Data Center Applications*, Tanvir Ahmed Khan, **Muhammed Ugur**, Krishnendra Nathella, Dam Sunwoo, Heiner Litz, Daniel A Jiménez, and Baris Kasikci [**MICRO 2022**]  
**Best Paper Award Winner**

## Journal/Workshop Publications

- [1] *One Profile Fits All: Profile-Guided Linux Kernel Optimizations for Data Center Applications*, **Muhammed Ugur**, Cheng Jiang, Alex Erf, Tanvir Ahmed Khan, and Baris Kasikci [**OSR 2022**]
- [2] [Workshop + Poster] *Understanding Branch Prediction in Data Center Applications*, **Muhammed Ugur**, Tanvir Ahmed Khan, Dam Sunwoo, Krishnendra Nathella, Daniel A. Jiménez, and Baris Kasikci, The Fourth Young Architect Workshop [**ASPLOS 2022**]
- [3] [Workshop + Poster] *Multi-Application Linux Kernel Profile*, **Muhammed Ugur**, Tanvir Ahmed Khan, and Baris Kasikci, Student Research Competition at 42nd ACM SIGPLAN Conference on Programming Language Design and Implementation [**PLDI 2021**]

## EXPERIENCE

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### Department of Computer Science, PhD

*Graduate Student, Yale University; Advisor: Prof. Abhishek Bhattacharjee*

New Haven, CT

*Aug. 2022 – Present*

- **Systems & Architecture:** Designing low-power, multi-accelerator systems for brain-computer interfaces

### Computer Science and Engineering, EfesLab

*Research Assistant, University of Michigan; Advisor: Prof. Baris Kasikci*

Ann Arbor, MI

*March 2021 – July 2022*

- **Systems & Architecture:** Optimized the Linux kernel and branch prediction for data center applications
- **Machine Learning Systems:** Profiled popular DL libraries and ML models to determine key bottlenecks

### Clinic Inc.

*Software Engineer*

Ann Arbor, MI

*June 2019 – Feb. 2021*

- **Full-Stack:** Developed new crowdsourcing infrastructure and services for NLP platform

## Center for Healthcare Engineering and Patient Safety

*Research Assistant, University of Michigan; Advisor: Prof. Amy Cohn*

- **Full-Stack:** Built web platform to manage surgical instruments for Michigan Medicine

Ann Arbor, MI

*May 2018 – May 2019*

## Department of Biostatistics

*Research Assistant, University of Michigan; Advisor: Prof. Hui Jiang*

- **Genomics:** Analyzed costly algorithms for differential gene expression

Ann Arbor, MI

*Oct. 2017 – Apr. 2018*

## PROGRAMMING SKILLS

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**Languages:** C/C++, Python, Rust, Shell Scripting, JavaScript, Go, Verilog

**Miscellaneous:** Docker, Git, Linux perf, Intel TopLev, PyTorch, TensorFlow, LLVM