OMAR SHAIKH OMAR

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EDUCATION

King Abdullah University of Science and Technology   Aug 2023 - present
MSc Computer Science, Advisor Peter Richtarik, A member of the KAUST AI Initiative

University of Washington, Seattle   Aug 2019 - Jun 2023
BSc Computer Science: Data Science, BSc Mathematics, GPA: 3.72,
- **Graduate Coursework:** Machine Learning, NLP, Algorithms, and Modern Algebra

EXPERIENCE

P. Richtarik Optimization and ML Lab @ KAUST   *Student Researcher*   Aug 2023 - present
- **Designing** asynchronous SGD methods for parallel learning with randomly delayed workers

(Previous) *Intern Researcher*   Jul 2022 - Aug 2022
- **Designed** a new algorithm *AuxPage* which generalizes current algorithms in non-convex optimization with access to auxiliary information (e.g. weighted subsampling of samples such as *PAGE*)
- **Implemented** experiments to evaluate algorithm performance on synthetic data using *pytorch*

Paul G. Allen School of CSE   *Teaching Assistant*   Jan 2023 - Mar 2023
- **Taught** Theory of Computation (CSE 431), roles included **holding** weekly office hours and **grading** the exams and homework for 30+ students

University of Washington STAR Lab   *Student Researcher*   Jul 2021 - Aug 2021
- **Deployed** the object detector model *YOLO v4* on *Jetson Nano* to process video streams of pedestrians on traffic intersections
- **Trained** custom *YOLO v4* model for pedestrian detection using data from the *Caltech Pedestrian Detection Benchmark* and the *MIOVision Traffic Camera Dataset*

Washington eXperimental Math Lab   *Student Researcher*   Sep 2020 - Jun 2021
- **Tested** three possible local analogs of the Gauss-Lucas Theorem and disproved them computationally via a Python library **developed** using *matplotlib*, *scipy*, and *sympy*
- **Presented** at the Brown University's (SUMS), and at the WXML conference (presentation)

Uliza   *Data Science Intern*   Jul 2020 - Aug 2020
- **Built** a spell checker for the African language Luganda in Python by connecting an *nltk* part of speech tagger, a lemmatizer built specifically for Luganda, and an edit-distance suggestion system
- **Scrapped** the Bible and dictionary for a total of 80,000+ unique words and 70,000+ sentences

HONORS

Putnam Mathematical Competition, Top 500 among US and Canada Universities,   Dec 2019
KAUST Gifted Student Program, recipient of full-tuition merit scholarship   2018 - present

ACTIVITIES

CSE 517 NLP Course Project   BetterExplain   (report)   Mar 2022 - May 2022
- **Improved** upon SelfExplain a model that adds interpretability to NLP models while maintaining performance, by **resolving** coding inconsistencies and **publishing** code for more experiments.

Volunteer Teaching Assistance at UW Math Circle   Sep 2019 - Feb 2020 and Sep 2020 - Dec 2020

TECHNICAL STRENGTHS

Programming Python, Java, C/C++, JavaScript   **Tools** Vim, Bash/Zsh, Git, LaTeX, SQL