Ama A. Koranteng

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https://amakora0.github.io

Education

Ph.D. Computer Science, JOHNS HOPKINS UNIVERSITY — Sept 2020 - present
Advisor: Michael Dinitz

M.S.E. Computer Science, JOHNS HOPKINS UNIVERSITY — Dec 2022

B.S. Mathematics, MASSACHUSETTS INSTITUTE OF TECHNOLOGY — Feb 2020

Experience

Research Intern, MIT THEORY OF COMPUTATION GROUP — June 2018 - May 2019
Advisor: Dr. Jayson Lynch

- Read and synthesized papers on gadget abstractions used to prove computational complexity of various games
- Rigorously defined and reconciled new and existing frameworks and gadget abstractions
- Solved open problems related to these papers, including designing algorithms and proving hardness results

Autonomy Intern, NORTHROP GRUMMAN AEROSPACE SYSTEMS — Jun–Aug 2017
Supervisor: Dr. Jonathan Las Fargeas

- Designed distributed algorithms for collaborative drones
- Implemented algorithms in C# using behavior trees in the Unity game engine

Autonomy Intern, NORTHROP GRUMMAN AEROSPACE SYSTEMS — Jun–Aug 2016
Supervisor: Dr. Jonathan Las Fargeas

- Created MATLAB models and Java programs to model complex offensive and defensive aircraft combat maneuvers

Publications

with Michael Dinitz, Guy Kortsarz, and Zeev Nutov
Improved Approximations for Relative Survivable Network Design
Workshop on Approximation and Online Algorithms (WAOA), 2023

with Michael Dinitz and Guy Kortsarz
Relative Survivable Network Design
International Conference on Approximation Algorithms for Combinatorial Optimization Problems (APPROX), 2022

Awards

NSF Graduate Research Fellowship 2022

GEM Fellowship (declined) 2022

Graduate Fellowship for STEM Diversity (declined) 2022

Wu and Zhang Endowed Graduate Student Fellowship 2020

Google Computer Science Research Mentorship Program 2019

Bloomberg Grace Hopper Travel Grant 2016

Generation Google Scholarship 2014

NCWIT Aspirations in Computing Award 2013

Skills

LaTeX, Java (intermediate), Python (beginner), C# (beginner)

SERVICE

JHU CS DIVERSITY AND INCLUSION COMMITTEE, **PhD Representative** 2022

- Worked with department administrators to help start and facilitate the JHU CS PhD Mentor Hour series, where senior PhD students give advice to junior students on a variety of topics in a casual, discussion-based setting

JHU CS THEORY SEMINAR, **Co-Organizer** Spring 2022

CONFERENCE **SUBREVIEWER**

- ESA 2023
- ICALP 2023
- SIROCCO 2023

MIT STUDENT SUPPORT SERVICES, **Peer Mentor** 2017-2019

- Provided guidance, emotional and logistic support for undergraduate students through their leaves of absence (particularly students leaving for health reasons)

MIT EDUCATIONAL STUDIES PROGRAM, **Co-Organizer** and **Educator** 2014-2016

- Organized the MIT Summer HSSP program, a summer extracurricular education program for over 100 middle and high school students
- Organized the MIT Cascade program, a free after-school high-school program for over 30 low-income Boston-area students
- Interviewed and hired teachers, taught courses, advertised for both programs

TEACHING

JHU WISE HIGH SCHOOL PROGRAM, **Co-Advisor** and **Mentor** Summer 2023

- Co-advised and mentored a Baltimore city high school student
- Introduced the student to graphs, graph algorithms, and basic graph theory concepts
- Guided the student through a programming project in which they implemented graph algorithms in Python

ALGORITHMIC GAME THEORY (JHU), **Teaching Assistant** Spring 2022

TALKS

Improved Approximations for Relative Survivable Network Design
WAOA 2023, *Amsterdam, The Netherlands* Sept 2023

Relative Survivable Network Design
APPROX 2022, *Online* Sept 2022