Arash Vaezi

CONTACTS:

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EDUCATION

Researcher Assitance (Sharif University of Technology),
Department of Computer Engineering, Sharif University of Technology
Supervisor: Prof. Mohammad Ghodsi & Dr. Mohammad Ali Abam

Ph.D. (In Computer Science and Engineering [Algorithm]), (Student ID = 96301676),
Department of Computer Engineering, Sharif University of Technology
Supervisor: Prof. Mohammad Ghodsi
GPA: **18.98 out of 20**, *Best Student Award*
Thesis: Visibility via Reflection.

M.Sc. (M.Sc. in Computer Science and Engineering [Algorithm]), (ID = 89701826)
Department of Computer Engineering, Sharif University of Technology
GPA: **17.57 out of 20**
Thesis: Expanding Visibility Polygons by Mirrors.
Supervisor: Prof. Mohammad Ghodsi *Advisor*: Prof. Mohammad Ali Abam

Bachelor. (B.Sc. in Computer Software Engineering), (Student ID = 84405307)
Department of Computer Engineering, Bahonar University of Kerman, Kerman, Iran
GPA: **17.11 out of 20**
Thesis: Designing and Implementing an Interpreter Using Action Routines.

RESEARCH INTERESTS

- Designing Large-Scale Systems
- Decentralized/Centralized Systems
- Distributed Systems
- Algorithm Designing
- Computational Geometry
- Approximation Algorithms
- Randomized Algorithms
- Deep Learning
- Visualization

PUBLICATIONS

- A. Vaezi, A. Daneshgar. The Loop of the Rings: A Fully Decentralized Secure Cooperative System. *arXiv:2206.01121, submitted to SIGMETRICS*, 2024.

- A. Vaezi, K. Vaezi. Agent-Cells with DNA Programming: A Dynamic Decentralized Managing System. *arxiv.org/abs/2211.17104, submitted to AAMAS*, 2024.
- A. Vaezi, A. Zarei, SH. Kazemi, MA. Abam, M. Ghodsi. Trajectory Range Visibility. *ready for submission to SoCG*, 2024.
- A. Vaezi, SH. Kazemi, N. Bagheri, M. Ghodsi. Theoretical Quantum Complexity in terms of Classic Complexity. *ready to be submitted to ACM Computing Surveys*, `https://dl.acm.org/journal/csur`, 2023.
- A. Vaezi. The Brain: A Decentralized System *on going*, 2023.
- A. Vaezi. Dynamic Topological Data Analyzes *on going*, 2023.
- A. Vaezi, B. Roy, M. Ghodsi. Reflective Guarding a Gallery. *Accepted in WALCOM*, URL: `https://www.walcom2023.conf.nycu.edu.tw/` 2023.
- A. Vaezi, B. Roy, M. Ghodsi. Visibility Extension via Reflection. *arXiv:2011.03107, 2020, submitted to TCS, under review*, 2023.
- A. Vaezi, B. Roy, M. Ghodsi. Art Gallery Plus Single Specular-Reflection. *arXiv:2108.10940, ready for submission*, 2024.
- A. Vaezi, B. Roy, M. Ghodsi. Reflection Helps Guarding an Art Gallery. *EuroCG*, 03:1–03:7, URL: `https://eurocg2022.unipg.it/accepted-papers.html`, 2022.
- M. Aletaha, A. Vaezi, M. Abouei M., M. Ghodsi. Simple Robot Free-Target Search in Rectilinear Streets. *4th Iranian Conference on Computational Geometry (ICCG))*, 2021.
- A. Vaezi, M. Ghodsi. Visibility extension via mirror-edges to cover invisible segments. *Accepted in Theoretical Computer Science*, 789, 22–33, 2019.
- A. Vaezi, M. Ghodsi. How to Extend Visibility Polygons by Mirrors to Cover Invisible Segments. *Accepted in WALCOM*, 42–53, 2017.
- A. Vaezi, M. Ghodsi. Extending Visibility Polygons by Mirrors to Cover Specific Targets. *EuroCG*, 13–16, 2013.
- A. Vaezi, P. Mohammadi, S. Azarnoush. Survey: A Hundred and one Attacks in Distributed Systems. *hal-03657061f, vixra.org/abs/2205.0039, submitted to International Journal of Information Security (IJIS)*, 2023.

HONORS

- Winner of the Gold statue of the best graduated Ph.D. Student of the Department of Computer Science and Engineering, Sharif University of Technology.
- I had a Dean's Fellowship admission from NYU.
  Supervisor: Prof. Boris Aronov NYU Email=av1585@nyu.edu / (NID = N14623198).
- I had a GTA admission From Ohio State University.
  Supervisor: Prof. Tamal Dey
- Ranked ***3rd*** Ph.D. National Entrance Exam (computer engineering-software).
- Ranked ***25th*** Ph.D. National Entrance Exam (computer engineering-software).
- Ranked ***2nd*** Among 50 students in Computer Engineering Department, Undergraduate Studies.

- Certificate of Attendance. *Workshpo conducted by Springer and Edanz.* How to publish a Scientific Journal Article.

  Signed by: Dr. Warren Raye, Dr. Mohammad R. Moahhedy, Dr. Chris Bendall.

- Certificate of Attendance and Presentation. *JGA, Computational Geometry Days 2022, held on May* 30^{th} *- June* 1^{st}. `https://project.inria.fr/jga2022/program/`

  Signed by: Dr. Mathien Carriere, Dr. Kristof Huszar, Dr. Clement Maria.

PROFESSIONAL EXPERIENCE

- Designing Large-Scaled Software (taak.org).

  We model the future of a system and anticipate various aspects of that system including practical faults. Different aspects may cause several statuses that are predictable. We use a three-step approach: Critical Thinking, Analysis, and Initial Designing. 2018-now

- Designing a Job Leveling infrastructure for Mofid, Tehran, IRAN. 2022-2023

- Designing a Learning infrastructure for Mofid, Tehran, IRAN. 2022-2023

- Designing a Decentralized system to manage telecommunication systems (Agent Cells) A monitoring system beneficial to move from 4G to 5G). Fakour, Tehran, IRAN. 2022

- Designing a universal management system for the Copper Mine of Sarcheshmeh, Rafsenjan, Kerman, IRAN. Manager Mr. Rafsenjani.
  Reference for USPS project on MESS of Sarcheshmeh (Mr. rafsanjani_mo@nicico.com; m.rafsanjani.firoozi@gmail.com) 2021

- Designing a driving culture for Iran. Submitted to the Department of motor vehicle (DMV) of IRAN. Accepted under the supervision of Mr. Sarhang Nejad Heydari. 2019–2020

- Consulting and System designer in CFP corporation, Tehran, IRAN. 2018

- Consulting and System designer in Amn Gostar corporation, Tehran, IRAN. 2017

- *Discovering miRNAs, Stable in Serum also Present in Tumors, which are Special in Detecting Breast Cancer.* A project related to early detection of breast cancer, under the supervision of Dr. Sharifi and Royan Institute. 2017

- Designing an ibt platform to be replaced by the traditional entrance exam of IRAN, Sanjesh Institute, Dr. Asaraie. 2016

- Designing a specific BI platform for VABANK corporation. 2016

PASSED GRADUATE COURSES

- Distributed Algorithms — Dr. M. Izadi
- Introduction to Bio-informatics — Dr. A. Motahari
- Advanced Bio-informatics — Dr. A. Sharifi Zarchi
- Advanced Operating Systems — Dr. H. Pedram
- Randomized Algorithms — Dr. A. Asadpour
- Computational Geometry — Dr. M. A. Abam (Dr. B. Aronov)
- Advanced Computational Geometry — Dr. M. A. Abam
- Massive Data and Streaming Algorithms — Dr. M. A. Abam

- Data Science — Dr. O. Etesami (Dr. A. Daneshgar)
- Parallel Processing — Dr. M. Ghodsi
- Game Theory — Dr. M. A. Safari
- Software Test — Dr. S. H. Mirian

TEACHING EXPERIENCE

- Five years of experience teaching courses required for the Computer Science and Engineering entrance exams of IRAN (MSc and Ph.D.).
  (Courses: Operating System, Data Structure, Designing Algorithms, Discrete Mathematics, Automata Theory) before 2020
- Sharif University of Technology:
  ***C**ourse Name: Data Structured and Algorithms, Course Number: 40254*
  ***C**ourse Link: http://ce.sharif.edu/courses/99-00/1/ce254-3/* *2020*
- Sharif University of Technology:
  ***C**ourse Name: Massive Data (Streaming Data), Course Number: 40686*
  ***C**ourse Link: https://docs.ce.sharif.edu/course/40686* *2023*

English SKILLS

English (TOEFL) (GRE) (MSRT)

Familiar With

Designing: Distributed Technologies Learning Methods Agent Designing/Programming Project Management

Implementing:

C# programming Latex ipe WordPress Elementary: Python Elementary: R

Some REFERENCES

Prof. Mohammad Ghodsi (ghodsi@sharif.edu)

Dr. Mohammad Ali Abam (abam@sharif.edu)

Dr. Bodhayan Roy (broy@maths.iitkgp.ac.in)

Prof. Amir Daneshgar (daneshgar@sharif.edu)

Dr. Mohammad Abouei Mehrizi (mohammad.aboueimehrizi@deliveryhero.com)