Arman Maesumi

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Education

The University of Texas at Austin - B.S. Computer Science Austin, TX
Aug 2018 - Present, CS/Math GPA: 3.81
Featured Courses: Neural Networks, Geometric Foundations of Data Science, Undergraduate Research, Algorithms & Complexity, Info. Retrieval & Web Search, Data Scructures, Discrete Math
Future: Physical Simulation (Grad), Computer Vision, Contemporary Issues in CS

The University of Texas at San Antonio San Antonio, TX
Aug 2017 - May 2018

Publications - Google Scholar

[1] Arman Maesumi (2020) Playing Chess with Limited Look Ahead, *arXiv*, https://arxiv.org/abs/2007.02130 (manuscript).

[2] Arman Maesumi (2019) Triangle Inscribed-Triangle Picking, *The College Mathematics Journal*, 50:5, 364-371 (presented at TUMC 2017).

Research Experience

Adversarial examples using differentiable rendering (August 2020 - Present)
UT Austin Computational Visualization Center Lab, Advisor: Prof. Chandrajit Bajaj

Playing Chess with Limited Look Ahead (January 2019 - June 2020) [PDF]
Independent Research, Supervised by: Prof. Chandrajit Bajaj

- Developed a neural network architecture that learns to evaluate chess positions.
- Created a dataset of nearly 25 million labelled chess positions using Stockfish as a blackbox.
- Showed that the model is capable of accurately approximating Stockfish's evaluation.

Triangle Inscribed-Triangle Picking (May 2017 - November 2019) [PDF]
University of Texas at San Antonio, Supervised by: Prof. Cody Patterson

- Derived the probability density function and moments of the area of stochasticly generated inscribed triangles. Moments of the area are listed in OEIS A279055.
- Presented preliminary findings at Texas Undergraduate Mathematics Conference (2017).
- Published paper in The College Mathematics Journal (2019).

Work Experience

Zilliant *Austin, TX*
Software Developer Intern (May 2019 - August 2019, May 2020 - August 2020)

- Created a company-wide solution that supplies start-up parameters to Zilliant's microservices.
- Developed a microservice that dynamically provisions AWS clusters when needed.

Projects

Vodder.gg - Highlight detection for live broadcasts *(Python, JavaScript, Flask), 2020*

- Founded a website that provides tools for video editors contracted by live broadcasters.
- Tools offer highlight detection, excitement visualization, and exporting lengthy video segments.
- Utilized learning algorithms to detect highlights from time series data.

MD5 Hackathon - 1st Place Entry: NARA *(JavaScript, Python), 2017*

- Developed NARA, a Facebook chatbot that provides aid to those affected by natural disasters.
- Presented to a panel of government officials at SxSW (South by Southwest, 3/10/2017).
- Awarded $15,000 grant from the Department of Defense to further develop the project.

Skills

Programming Languages:	Python, Go, Java, C++, C, JavaScript, Mathematica
Tools & Technologies:	PyTorch, TensorFlow, Keras, PyTorch3D, Docker, Git, LaTeX, Linux
Computer Graphics:	Blender, Cinema 4D, RealFlow, Vray, Octane, Arnold, Krakatoa

Honors & Awards

- University Honors (Spring 2020), Dean's List (Spring 2018), President's List (Fall 2017).
- MD5 Hackathon: Awarded $15,000 grant from Department of Defense.