Reza Tasooji

PhD student | Software Developer | Data Analytics Tutor | Digital Art Tutor

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EDUCATION

Virginia Tech   **Blacksburg, VA, USA**

Doctor of Philosophy (PhD), Computer Science   *May 2018 - Dec 2021 (expected)*

- CGPA: 3.74 / 4.0
- Topic: Intersection of HCI and IoT with the emphasis on using AI in Affective Computing

Virginia Tech   **Blacksburg, VA, USA**

Master of Science, Computer Science   *Aug 2015 - May 2018*

- CGPA: 3.77 / 4.0
- Thesis: Determining Correlation Between Video Stimulus and Electrodermal Activity

Virginia Tech   **Blacksburg, VA, USA**

Master of Fine Art in Creative Technology   *Aug 2012 - May 2015*

- CGPA: 3.78 / 4.0
- Thesis: Desire and Hope

Karaj Azad University   **Karaj, Iran**

Bachelor of Civil Engineering   *Aug 2005 - May 2009*

- CGPA: 16.0 / 20.0

EXPERIENCE

Intern:

    May 2020-Aug 2020, Roanoke, VA, **Commonwealth Learning Systems**

- Data Analytic instructor, covering topics: Introduction to Python, processing and visualizing data, regression model, time series analysis, introduction to Machine Learning and Deep Learning methods

    May 2018-Aug 2018, Philadelphia, PA, **OSIsoft, LLC**

- Worked with a team of 2 for improving the latency of an IoT framework for real-time data collection.
- Developed a regression model for managing payloads that led to 80% improvement in performance (Python, C#, SQL) for the award-winning FutureHAUS project (First place, Solar Decathlon Middle East, 2018).
- Developed an infrastructure to run different open-source machine learning tools periodically on real-time data (Python, C#, PI system)

Graduate Research Assistant, Blacksburg, VA, **Virginia Tech**

    March 2020-Present:

- Clustering physiological responses using autoencoders with Convolutional Neural Networks (PyTorch)
- Full Stack - Created a centralized management platform for Emotion In Motion Database (MongoDB, Python)
- Synthesizing physiological responses for a computer using GAN (PyTorch)

    Sep 2019-May 2020:

- Led a team of 2 for developing and deploying an interactive artwork inspired by Escher's Metamorphosis piece for VR and Dome theaters (Houdini, Unity, Kinect Azure)

    Aug 2019-March 2020:

- explored the effect of precedence in physiological responses (Python, Walabot, Pupil-labs eye tracking device).

May 2019-Aug 2019:
- Worked with a team of 2 for developing a VR app for managing code blue in Roanoke hospital (Unity, Maya)

Oct 2018-May 2019:
- Worked with a team of psychologists for developing a stimulus that can induce fear (Unity, Maya)

Aug 2018-May 2019:
- Worked with a team of 2 for developing IoT-enabled smart space framework (Sensory units, Raspberry Pi, Python, C#, MQTT)

Aug 2017-May 2018:
- Conducted a user study to determine the correlation between video stimulus and physiological responses (Empatica, Java)

May 2017-Aug 2017:
- Taught 3D modeling and printing to students under the age of 12
- Developed an augmented reality app with area learning functionality (Unity, Project Tango)

Jan 2017-May 2017:
- Cleaned and developed animations from motion captured files for conducting user studies on MR-based application for people with Autism (Qualisys, MotionBuilder, Maya)

Aug 2016-May 2017:
- Developed tangible UI for Augmented Reality application (Unity, Vuforia)

May 2016-Aug 2016:
- Developed an AR application for ICAT research book (Unity, Vuforia)

May 2015-Aug 2016:
- Managed and developed multiple VR projects inside the CUBE in Virginia Tech Moss Art Center (Qualisys, Unity, MotionBuilder)

May 2013-Aug 2014:
- Cleaned up mesh, rigged and animated 3D scanned models for an AR application for Smithsonian museum (Zbrush, Maya)

Graduate Teaching Assistant, Blacksburg, VA, **Virginia Tech**

Aug 2014-Dec 2014:
- Instructor for Introduction to 3D animation (Maya)

Publications (Reviewed)

- **Papers:**
  - R. Tasooji, N. Buckingham, D. Gracanin (2019) An Approach to Analysis of Physiological Responses to Stimulus, International Conference of Human-Computer Interaction
  - A. Dasgupta, N. Buckingham, D. Gracanin, M. Handosa. R. Tasooji (2018) A mixed reality based social interactions testbed: A game theory approach, International Conference on Virtual, Augmented and Mixed Reality
  - D. Gracanin, A. Ciambrone, R. Tasooji, M. Handosa (2017) Mixed Library Bridging Real and Virtual Libraries, International Conference on Virtual, Augmented and Mixed Reality
  - K. Matkovic, D. Gracanin, M. Duras, R. Tasooji, M. Handosa (2017) Explorative analysis in a preliminary phase of hybrid vehicle design by means of tangible interaction, Winter Simulation Conference
- **Posters:**
  - R. Tasooji, A. Dasgupta, D Gracanin, M. LaGro, K Matkovic (2020) Design and implementation of an IoT-based ambient intelligence framework for smart built environments. In Proceedings of the 29th European Conference on Networks and Communication (EuCNC 2020)
  - R. Tasooji, A. Dasgupta, D Gracanin, M. LaGro, K Matkovic (2018) A multi-purpose IoT framework for smart built environments, Proceedings of the 2018 Winter Simulation Conference
  - D. Gracanin, M. Eltoweissy, L. Cheng, R. Tasooji (2018) Reconfigurable spaces and places in smart built environments: A service centric approach, International Conference on Human-Computer Interaction
  - D. Gracanin, R. Tasooji, M. Handosa, K. Matkovic, M. Waldner (2017) Tangible Visual Analysis: Brushing in a Mixed-Reality Environment, EuroVis

AWARDS & ACHIEVEMENTS

- Virginia Tech ICAT (Institute for Creativity, Arts, and Technology) $1000 student Grant, 'The Recursions of Escher: Between Art and Science' project, Principle Investigator (PI) 2019
- Virginia Tech ICAT $1000 student Grant, 'Wireless Psychophysiological Recording in the Augmented Reality Environment' project, team member, 2019
- Team member of the Award-winning smart house project 'FutureHAUS' (First place, Solar Decathlon Middle East, Dubai, 2018)
- Virginia Tech ICAT $500 student Grant, 'Using Affect Feedback to Develop Immersive Application' project, PI, 2015
- Awarded outstanding graduate student for higher academic achievement and strong character by School of Visual Arts, Virginia Tech, 2014
- Officially selected short animation 'With or Without' for Animasyros festival, Greece, 2014.
- Officially selected short animation 'Greed' for Chile Monos International festival, Chile, 2014.
- Second place, Diversity competition, College of Architecture and Urban Studies, Virginia Tech, Blacksburg, Virginia, 2013
- Officially selected short animation 'Mother' for Linoleum festival, Ukraine, 2010