(Seyed) Shayan Shahrestani

Date of Birth:	March 26th, 1996
Birthplace:	Tehran, Tehran, Iran
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Areas of Interests

- Building Energy and Performance analysis
- Thermal Comfort Analysis
- Machine Learning and its applications in Built Environment
- Circularity and Digital Twins in Built Environment

Educational background

- M.Sc. In Architecture and Energy (Building Physics) 2019-2021
  - Shahid Beheshti University, Tehran, Iran.
  - Major Area: Outdoor Thermal Comfort Analysis
  - Thesis title: Development of a vernacular software framework of built environment design: Investigating effects of water bodies and vegetation on outdoor thermal comfort

- B.Sc. in Architectural Engineering 2014-2019
  - Islamic Azad University South Tehran Branch, Tehran, Iran.
  - Sep 2019, GPA: 17.47 / 20

- High School Diploma in Mathematics and Physics, 2011-2014
  - Allameh Tabatabaee High School (Advance branch)

Skills & Abilities

- Building Energy Modeling, Simulation and Optimization
- Experienced in thermal comfort and IEQ research
- Python Programming specially for Data Science and Machine Learning with general knowledge in other areas
- Assessment of Thermal and Visual Comfort in Buildings
- Computational Fluid Dynamics
- Building HVAC Design
- Daylight and Electric Lighting Design
- Architecture and Urban Design (Complete Building Design from Concept to Detailed Plans)
- Familiarity with C and C++ Programming Languages, Object-Oriented Programming with Java, and Octave language for Machine Learning

Software

- Rhino and Grasshopper including Climate Studio, Diva, Honey Bee, Lady Bug, Butterfly, Wallacei

  For 3D modeling and presentation, Energy modeling, Thermal and Visual Comfort Analysis, and optimization analysis

- Design Builder

  Energy Modeling and optimization, HVAC design, Parametric analysis, CFD simulation

- ENVI-met

  Urban environment and outdoor thermal comfort assessment

- Ansys Fluent

  CFD simulation of Air flow in urban context or enclosed space

- Dialux

  Electric Lighting Design

- Autocad
- Photoshop

Research Projects

- An investigation around possible effects of different building facades on UHI through field measurements and simulation, 2022, research paper currently being written

  First Author of the research paper

  Supervisor: Dr. Zahra Sadat Zomorodian

- Assessing thermal effect of building integrated photovoltaic on an adjacent wall using CFD simulation, 2020

  Team member of the project

  Supervisor: Dr. Shahram Delfani

- Investigation of the role of climate in formation of rural houses in Zavare, Isfahan, Iran, 2019

  Team member of the project

  Supervisor: Dr.Mansoureh Tahbaz

- Investigation of building morphology effect on thermal comfort in Shahid Beheshti University campus in Tehran, Iran using field study, 2019

  Team member of the project

  Supervisor: Dr.Mansoureh Tahbaz

Publications

1- Seyed Shayan Shahrestani, Zahra Sadat Zomorodian, Maryam Karami, Fatemeh Mostafavi; Application of Pix2Pix Machine Learning Algorithm for Outdoor Thermal Comfort Assessment in Different Urban Contexts; 2022; Submitted

2- Fatemeh Mostafavi, Zahra Sadat Zomorodian, Mohammad Tahsildoost, Seyed Shayan Shahrestani; Energy and Environmental Assessment of Residential Space Layouts Using Pix2Pix Predictive Model; 2022; Submitted

Work Experience

Architect at Parsin Tarh va Sakht 2017-2018

Architect at Nu Gustar 2017-2019

Teaching ENVI-met and Grasshopper to graduate students at Shahid Beheshti University 2021-2022

Collaborations with IBPSA-Iran: Planning and execution of IBPSA-Iran's webinars- 2022- Ongoing

Personal Interests

Reading and Programming Playing Chess Hiking and Climbing

Language

Farsi (native) English (IELTS academic overall score of 8.0)

References

1. Dr. Zahra Sadat Zomorodian

   Assistant Professor, Shahid Beheshti University

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   Associate Professor, Kharazmi University

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3. Dr. Mohammad Reza Hafezi

   Dean of the Faculty, Shahid Beheshti University

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