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| 116 W University Pkwy  Baltimore, MD, 21210 | **‍‍S. Hossein Hezaveh, Ph.D** | Cell: 410-662-2787  [shezaveh@princeton.edu](mailto:shezaveh@princeton.edu)  [hossein.hezaveh@gmail.com](mailto:hossein.hezaveh@gmail.com) |

[](https://www.linkedin.com/in/seyed-hossein-hezaveh/)<http://www.princeton.edu/~shezaveh>

Green Card Processing/AOS . Authorized to work in the US for any employer.

**Expertise Areas**

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| Machine Learning | Forecasting Platforms | Numerical Modeling |
| Data Visualization | Large Data Analysis |  |

**Work Experience**

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| 2016-Pre. : | **Postdoctoral Researcher**, Princeton University, Princeton, NJ  Research grant awarded by [Siebel Energy Institute, 2016 Round 1 Winner](http://www.siebelenergyinstitute.org/2016-research-grants/)   * *Implemented and created a state of art hybrid – machine learning model for short- to mid-term wind forecasting.* * *Designed statistical and numerical model to improve day-ahead wind forecast* * *Developed PHP-Python-JScript web-based page that will provide the forecast for the specified location:* [*http://sharp.princeton.edu*](http://sharp.princeton.edu) * *Analyzed large data (100 TBs) to train the forecast model and configure the required blending weights.* |
| 2007-2011: | **IT Engineer (Computer Network System)**, Emdad Rayane Co.,   * *Designed and implemented computer network systems for various companies* * *Designed the web interface using HTML* |

**Education**

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| 2011-2016: | **Princeton University, Princeton, NJ**  *Ph.D. in* [*Civil and Environmental Engineering (Fluid Mechanics and atmospheric science)*](http://www.princeton.edu/cee/)   * *Dissertation: Large Eddy Simulations of Vertical Axis Wind Turbines* * *Published in 3 journal papers and 5 conference presentations* * *Developed optimization model for numerical modeling and configurations of large wind farms* |
| 2011-2013: | **Princeton University, Princeton, NJ**  *M.A. in* [*Civil and Environmental Engineering (Fluid Mechanics and atmospheric science)*](http://www.princeton.edu/cee/)   * *Dissertation: Computational Fluid mechanic model of Vertical Axis Wind Turbines* |
| 2008-2011: | Sharif University of Technology  *M.Sc. in* [*Civil and Environmental Engineering*](http://civil.sharif.ir)   * *Dissertation: Numerical Modeling with Smoothed Particle Hydrodynamics.* |

**Computer Skills**

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| Programming: | FORTRAN (10+y), MATLAB (10+y), Java (4+y), C++ (3+y), Python (3+y), PHP, HTML |
| Software: | Weather Research & Forecasting Model (WRF), Maple, SQL, MySQL, Linux |
| Packages: | MPI, OpenMP |

**Academic Experience**

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| 2015-2016: | **Teacher Assistant**, Princeton University, Princeton, NJ   * *CEE 304 Environmental Implications of Energy Technologies* |
| 2013-2014: | **Teacher Assistant**, Princeton University, Princeton, NJ   * *Engineering Projects in Community Service (EPICS)* * *Led the team to design Power-In-a-Box project, a technology that our team developed to provide portable renewable energy to recovering and off-the-grid communities.* * [*http://powerbox.princeton.edu/Home*](http://powerbox.princeton.edu/Home) |
| 2011-2012: | **Instructor**, Jahad-e-daneshgahi Of Tehran University   * *Instructor for Hydraulic system design class* |

**Publications**

**Hezaveh S.H**, Bou-Zeid E., Lohry M., Martinelli L., “[*Large Eddy Simulation of Vertical Axis Wind Turbine Wakes*](https://www.researchgate.net/publication/308868186_Simulation_and_wake_analysis_of_a_single_vertical_axis_wind_turbine)”, Published Online, Wind Energy, 2016, DOI: 10.1002/we.2056

**Hezaveh S.H**, Bou-Zeid E., Martinelli L., Kinzel M., Dabiri J., Cortina G.,“[*Increasing VAWT wind farm power density using synergistic clustering*](http://efm.princeton.edu/pubs/BOUN-S-17-00117.pdf)”, submitted to Boundary Layer Meteorology (Jan 2017)

**Hezaveh S.H** and Bou-Zeid E.,“*Mean Kinetic Energy Replenishment Mechanisms in Wind Farms: the Effect of Farm Fetch*”, submitted to Physical Review Fluids (June 2017)

**Hezaveh S.H,** Momen M., Bou-Zeid E., “[*A Hybrid Model for Wind-Energy Forecasting*](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=LLc4b1wAAAAJ&sortby=pubdate&citation_for_view=LLc4b1wAAAAJ:2osOgNQ5qMEC)”, 97th American Meteorological Society Annual Meeting, (Jan 2017)

**Hezaveh S.H,** Bou-Zeid E., Dabiri J., Kinzel M., Martinelli L.”*Cluster designs for vertical axis wind turbine farms*”, International colloquium on wind-power plants: Interaction, control and integration WINDFARMS (May 2016)

**Hezaveh S.H**, Bou-Zeid E., Dabiri J., Kinzel M., Martinelli L.”*Cluster designs for vertical axis wind turbine farms*”, 22nd Symposium on Boundary Layers and Turbulence, (June 2016)

Hezaveh S.H, Bou-Zeid E., Lohry M., Martinelli L, Kinzel M. Dabiri J. “*Multiscale Simulations of Vertical Axis Wind Turbines using Offline-Coupled LES and URANS*”, ICMIDS, (June 2015)

**Hezaveh S.H,** Bou-Zeid E., Lohry M., Martinelli L. “*Simulations of Vertical Axis Wind Turbine Farms in the Atmospheric Boundary Layer*”, Bulletin of the APS 59 (18) (Nov 2014)

**Hezaveh S.H.** and Bou-Zeid E. “*Large eddy simulations of vertical axis wind turbines to optimize farm design*”, Bulletin of the APS 58 (Nov 2013)

Honors & Awards:

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| 2014-2016: | Certificate of Appreciation: For serving as a First Round Judge in the 2014-2015 and 2015-2016 Clean Tech Competition |
| 2011-2012: | Princeton University Fellowship |
| 2004-2005: | Ranked *405* among *400,000* participants in the Iranian university entrance exam |