

NAVID HAGHDADI

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PERSONAL INFORMATION

- **Date of Birth:** 24/July/1986
- **Residency Status:** Iran
- **Languages:** English (fluent), Persian (native), German (Novice), Chines (Novice)



QUALIFICATION/EDUCATION

- **MSc Electrical Engineering** - (Sep'09—Feb'12), University of Tehran, Iran.
Thesis: Selection of appropriate penetration factor and location for photovoltaic power plants from the view point of distribution system (Grade: 19.75/20) Supervisor: [Dr. Behzad Asaei](#)
- **BSc Electrical Engineering** - (Sep'04—Sep'09), University of Tehran, Iran.
Last year project: Design and implementation of central control board for Miniator car (Grade: 20/20)
- **High School Diploma**, (2000—04), Emam Reza High School, Mashhad, Iran.

RESEARCH INTERESTS

- Power Systems
- Renewable Energies Modeling and Optimization
- Distributed Generation Operation and Planning
- Distribution System
- Power Systems Restructuring
- Renewable Energies
- Smart Energy Networks
- Large Scale and Small Scale Photovoltaic Power Plant
- Building Integrated Photovoltaic (BIPV)
- Multi Criteria Optimization and Programming
- Plug in - Hybrid Electric Vehicles
- Automotive Electrical, Electronic, and Control Systems
- Solar Energy Systems

SKILLS/ACHIEVEMENTS SUMMARY

- **Mathematics:** Linear Algebra, Calculus, Differential equations, Vector Analysis, Group Theory, Infinite Series, Numbers Theory, Statistical analysis.
- **Physics:** Basic Principals in Dynamics and Statics, Electromagnetics, Electricity, Biophysics, Medical physics
- **Engineering:** Signal processing, Mathematical Modeling, Control systems, Telecommunications, Systems theory, Power Systems Analysis, Optimization, Multi objective decision making, Renewable energy systems, Distributed Generation.
- **Computer:** MATLAB, Visual Basic, C/C++; Orcad, Pspice, Simulink, Protel, PSAT, Modelsim, PSCAD, DIGSILENT, COMSOL; Mac/Linux/Windows; Microsoft Office, Desktop Utilities.
- **Optimization and Planning:** GAMS, RETScreen, Expert Choice.
- **Office Skills:** Office/Records/Event Management, Executive Support, Calendaring, Database Administration.
- **Research Skills:** Ability to work both independently and in a team environment; Ability to liaise with industrial bodies.

▪ Teaching Experiences:

TA and website administrator of “*Basic Electrical Engineering I*” course at Mechanical Department, University of Tehran (UT), Spring 2008, Fall 2008, Spring 2009, and Fall 2009, Instructor Dr. Behzad Asaei.

TA and website administrator of “*Electrical Circuit II*” course at ECE, UT, Fall 2008, Instructor Dr. Hasan Ghasemi.

TA of “*Power Electronic*” course at ECE, UT, Spring 2010, Instructor Dr. Behzad Asaei.

TA and website administrator of “*Smart Energy Networks*” course at ECE, UT, Spring 2011 and Spring 2012, Instructor Dr. Ashkan Rahimi Kian.

TA of “*Installation and Lighting Systems*” course at ECE, UT, Fall 2011, Instructor Dr. Behzad Asaei.

Editing the "*Power System Analysis*" and "*Electrical Circuits*" problems for the "GAJ" institute, the well-known institute of education in Iran

RESEARCH EXPERIENCE

- Design a hybrid vehicle as one of the University of Tehran’s team “Hybauto” member in Iranian Machine Design Competition (summer 2011)
- Design and implementation of BCM (Body Control Module) for Miniator car for SAIPA company (summer 2009)
Note: SAIPA is one of two most prominent automobile manufacturing companies in Iran
- Design the electrical wiring plan for Miniator car (summer 2009)
- Investigation of effect of air pollution on photovoltaic modules output power
- Developing a software for calculation of power consumption and component selection for BIPV
- Propose a clustering-based method for preprocessing a feeder equivalent power in presence of photovoltaic power plant.
- Literature survey on irradiation formulas and develop a MATLAB script for calculation the irradiation level, azimuth and zenith angle and separation of various component of solar irradiation for different times and days during a year.
- Multi attribute decision making for optimized planning of a micro grid system considering technical, economic and environmental constraints and uncertainty in power network
- Literature survey on competitive electricity market
- Schematize an Advanced Metering Infrastructure (AMI) for smart energy network.
- Analysis of different type of photovoltaic power plant and calculating the amount of energy delivered to electricity grid during the year by means of different methods
- Simulate and analysis of dynamic behavior of SSSC and STATCOM, two well-known Flexible Alternating Current Transmission Systems in MATLAB/Simulink environment.
- Comparing the performance and capital and operation cost of GCSC with TCSC
- Simulate and performance evaluation of the Single Phase Unified Power Flow Controller (UPFC)
- Analysis the Transient Recovery Voltage (TRV) of Switch in photovoltaic power plant feeder with PSCAD software
- Literature survey on allocation of Power System Stabilizer in power network using Genetic Algorithm
- Unit commitment for a power network considering the technical and economic constraints with GAMS software
- Cost analysis and optimization of Combined Heat and Power unit operation
- Multi attribute decision making for optimized planning of a micro grid system considering technical, economic and environmental constraints and uncertainty in power network
- Mixed Integer Non-Linear Programming of Photovoltaic Power Plant sizing and allocation in Distribution System.
- Literature survey on competitive electricity market
- Schematize an Advanced Metering Infrastructure (AMI) for smart energy network.
- Analysis of different type of photovoltaic power plant and calculating the amount of energy delivered to electricity grid during the year by means of different methods

- Research on optimal power injection with photovoltaic (Collaboration with Dr. Iman-Eini for Iran Power Development Company (IPDC))
- Member of Board of Jury in Technical Committee in the 14th Iranian Student Conference on Electrical Engineering Sep'11.
- Member of Organization Committee of 2nd Iranian Conference on Renewable Energy and Distributed Generation (ICREDG) Feb'12.

ENGLISH PROFICIENCY

TOEFL: 92 Reading: 22/30, Listening: 21/30, Speaking: 22/30, Writing: 27/30

GRE: Verbal: 139/170 (310/800), Quantitative: 166/170 (800/800), Analytical Writing: 4/6

PROFESSIONAL EXPERIENCE

- **Photovoltaic Energy Consulter** (Oct 2010—present), Gita Solar; Tehran, Iran.
Developing a software for calculation of power consumption and component selection for BIPV ; Feasibility study for allocating and sizing a photovoltaic power plant in Tehran distribution network and Design and implementation of Maximum Power Point Tracker (MPPT)
- **Research and Development Center for MAPNA group** (Sep 2010 - present) MAPNA group, Tehran, Iran.
Research on feasibility of renewable energies expansion planning in Iran Literature survey on different renewable energies technology and energy audit for the combined cycle power plant
- **Photovoltaic Laboratory** (Jul 2011 – present), Tehran, Iran.
Data acquisition from photovoltaic power plant such as module and ambient temperature, output power and level of irradiation and establish photovoltaic power plant in university of Tehran
- **Internship in Moshanir Company** (Jun 2008 – Aug2008) design a sample 400 kV transmission line and publication of a guideline for design and analysis of electrical aspects of high voltage transmission line, summer 2008
- **University of Tehran Solar Car Project,**
Analysis of irradiation level and design a strategic plan in order to maximize the solar power for the first solar car in Middle East “Persian Gazelle,” and participate in “**Veolia World Solar Challenge 2011, Australia, Darwin to Adelaide**”
- **Enermonde Consultant Company**
Renewable Energies consultant, Dec'11 - present

AWARDS

- Winner of the “**National Renewable Energy Award 2011**” worth 20,000,000 IRR for design and implementation of a novel Maximum Power Point Tracker for photovoltaic modules.
- **Best Paper Award** in 2nd Power Electronic, Drive Systems and Technologies Conference 2011, Iran
- Overseas Travel Grant, November 2011, UAE
- Participating in **World Solar Challenge**, October 2011, Australia
- Rank 183 among 500,000 Participants at University National Entrance Exam 2004

PUBLICATIONS

- Ghias Farivar, Behzad Asaei, **Navid Haghdadi**, and Hossein Iman-Eini, “A Novel Temperature Estimation Method for Solar Cells,” *2nd Power Electronic, Drive Systems and Technologies Conference 2011*. Tehran, Iran. (**Best Paper Award**)
- **Navid Haghdadi**, Behzad Asaei, and Ziba Gandomkar, “A Clustering-based Preprocessing on Feeder Power in Presence of Photovoltaic Power Plant” *10th International Conference on Environment and Electrical Engineering 2011*, Rome, Italy.

- M. Hossein Moayyed Jahromi, Behzad Asaei and **Navid Haghddadi**, “Demand Response Program Evaluation for Plugin Hybrid Electric Vehicles Purchase Encouragement” *Electric Power and Energy Conversion Systems 2011*, Sharjah, UAE.
- M. Hossein Moayyed Jahromi, Behzad Asaei and **Navid Haghddadi**, “Clustering Power Demand for Feasibility Study on Transition to Plugin Hybrid Electric Vehicles” *Electric Power and Energy Conversion Systems 2011*, Sharjah, UAE.
- **Navid Haghddadi**, Behzad Asaei, “Multi-Attribute Decision Making for New Photovoltaic Power Plant Establishment: Iran Case Study” *11th International Conference on Environment and Electrical Engineering 2012*, Rome, Italy.
- **Navid Haghddadi**, Ghias Farivar, and Hossein Iman-Eini, Fariborz Miragha, “An Analytic Approach for Estimation of Maximum Power Point in Solar Cars” *20th Iranian Conference on Electrical Engineering 2012*, Tehran, Iran.
- **Navid Haghddadi**, Behzad Asaei, and Ziba Gandomkar “Clustering-Based Optimal Sizing and Siting of Photovoltaic Power Plant in Distribution Network” *11th International Conference on Environment and Electrical Engineering 2012*, Rome, Italy.

HOBBIES

- Climbing, football, theater, music, learning foreign languages.

REFERENCES

- [Prof. B. Asaei](mailto:basaei@ut.ac.ir), Assistant Professor, University of Tehran, basaei@ut.ac.ir
- [Prof. S. Farhangi](mailto:farhangi@ut.ac.ir), Professor, University of Tehran, farhangi@ut.ac.ir
- [Prof. H. Ghasemi](mailto:ghasemi@ut.ac.ir), Assistant Professor, University of Tehran, ghasemi@ut.ac.ir
- [Prof. S. Rahimi-kian](mailto:arkian@ut.ac.ir), Associate Professor, University of Tehran, arkian@ut.ac.ir
- [Prof. H. Iman-Eini](mailto:imaneini@ut.ac.ir), Assistant Professor, University of Tehran, imaneini@ut.ac.ir
- [Prof. K. Abrinia](mailto:cabrinia@ut.ac.ir), Associate Professor, University of Tehran, cabrinia@ut.ac.ir
- [Dr. M. Noroozian](mailto:mojtaba.noroozian@enermonde.com), Enermonde AB Company Executive Manager, mojtaba.noroozian@enermonde.com