

Amritbir Singh Gill

SMART GRID ENGINEER · SOFTWARE ENGINEER

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Education

ENSE3(Ecoles d'ingénieurs et formations de docteurs-INPG)

Grenoble, France

MASTERS IN ELECTRICAL ENGINEERING FOR SMART GRIDS AND BUILDINGS

Sept. 2013 - August. 2015

UIET(University Institute of Engineering and Technology, Panjab University)

Chandigarh, India

BACHELOR OF ELECTRICAL AND ELECTRONICS ENGINEERING

Sept. 2009 - August. 2013

Skills

Electrical Engineering	Modeling/Simulation and Stochastic Analysis of Power Grid, State-estimation, Automatic Fault Analysis tools
Smart Grids	Energy Markets, Monitoring (Smart Metering/IEDs), Design and Communication Protocols, Signal Processing
Programing Languages	Matlab, Python, C, Java, TeX, DigSilent Programing Language
Frameworks	MATLAB Compiler SDK (mex and Matlab Builder JA), Django MVC, Pebble SDK, Spring
Tools	Git/Mercuriel, Bash, Maven, PowerFactory, Simulink, Amazon Web Services
Spoken Languages	English, French, C, Hindi, Punjabi

Experience

Power Application Department, NetCeler

Valence, France

DESIGN & DEVELOPMENT ENGINEER: ELECTRICAL GRID MONITORING

Septembre 2015 - Present

- IVPower is a software dedicated to real time monitoring and analysis of electrical disturbances and power quality in transmission and distribution grid. The role of a design and development engineer is to develop mathematical models to treat records available in COMTRADE and PQDIF formats.
- Implemented automatic fault analysis algorithms using Matlab and integrated them to Java at the backend using Matlab Builder JA
- Automated Matlab compilation using Maven
- Intensive use of signal processing tools

EDF R&D France

Clamart, France

INTERN: PROBABILISTIC LOAD FLOW

February 2015 - August 2015

- The objective of the internship was to develop the models and statistical tools for the simulation and prediction of system's state in the presence of hazards such as varying electrical consumption and unavailability of network equipment using Three Point estimation method. Monte-Carlo probabilistic load flow method is used for the comparison of results. Most of the work is performed in PowerFactory (Power system simulation tool from DigSILENT)
- Acquired knowledge of electrical network modeling and simulation
- DigSilent programming language to communicate (acquisition of data and updation) with grid objects
- Implemented probabilistic load flow algorithms using Python

G2ELab

Saint martin d'here, France

INTERN: LOAD FLOW STUDIES FOR DISTRIBUTION GRID

June 2014 - July 2014

- Load flow and flexibility studies for unbalanced electrical distribution network using Forward/Backward sweep method. The results of this internship were compared with other well known load flow algorithms such as Newton-Raphson method and proved to be accurate in case of high unbalance in phase currents
- Implimented using Matlab

Consortium de Recherche pour l'Emergence de Technologies Avancées, CNRS

Grenoble, France

INTERN: STUDY OF FE-NI BASED HARD MAGNETIC MATERIALS

February 2013 - July 2013

- Objective: To explore Magneto-caloric and super-conductive properties of Fe-Ni based hard magnetic materials using high temperature annealing and mechanical deformation

MINATECH

Grenoble, France

SUMMER SCHOOL: FABRICATION AND CHARACTERISATION OF A SOLAR-PANEL

Summer 2012

- Fabrication in cleanroom using Photo-lithography