

HAFIIZ OSMAN

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EDUCATION AND QUALIFICATIONS

Aug 2006 – Jun 2010	National University of Singapore Bachelor of Engineering (Hons), Engineering Science Programme
Jan 2002 – Dec 2003	Tampines Junior College, Singapore A-Level: Distinctions in Math, Physics and Chemistry
Jan 1998 – Dec 2001	Ngee Ann Secondary School, Singapore O-Level: 6 Distinctions

RESEARCH ENGINEER

July 2010 – Present	Minerals, Metals and Materials Technology Centre (M3TC) <ul style="list-style-type: none">Modeling and experimental studies on drying low-rank coal.Coal combustion modeling.
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RESEARCH ASSISTANT

Aug 2009 – May 2010	Experimental Power Grid Centre (EPGC), A*STAR <ul style="list-style-type: none">Responsible for the initial development of modular energy management system that will eventually monitor real-time data from distributed energy resources (DER).Local and remote hardware integration through development of base software in LabVIEW.Use of interconnection technologies to build a robust and modular system that supports cutting-edge communication technologies and protocols.Valuable experience with wireless sensor networks (WSN), Networking, PostgreSQL, TinyOS, Real-time controller, data acquisition and data visualization.
Apr 2009 – Aug 2009	Experimental Power Grid Centre (EPGC), A*STAR <ul style="list-style-type: none">Modeling of Solar Photovoltaic system and Diesel generator using MATLAB and Simulink to better understand distributed resources interaction with the grid.Procurement, installation and troubleshooting of DAQ devices, communication devices and sensors (Temperature, Humidity, Voltage and current).
May 2008 - Aug 2008	Minerals, Metals and Materials Technology Centre (M3TC) <ul style="list-style-type: none">Design of a novel Semi-Underground Fuel Storage Tank (SUFST).Techno-economical studies of tank design.Structural analysis of tank design using Abaqus.Drafted patent specification for the SUFST.Listed as co-inventor in a provisional US patent that was filed on November 3, 2008 (US Patent serial no.: 61/110,691).

DESIGN PROJECTS**Micro-Magnetic Modeling of Co Free layer for MRAM Application**

- Simulation of magnetic hysteresis and magnetic reversal characteristics of Cobalt free-layer using OOMMF software package.
- Studied the influence of thickness and shape of free-layer to the stability and efficiency of the memory device.

Miniature Solar-powered Golf Buggy

- Fabrication and optimization of Li-ion coin cell.
- Measuring cycling properties of fabricated cells.
- Constructed a solar-powered remote-controlled vehicle.
- Fabricated Li-ion cell was used to power vehicular lighting.

TECHNICAL AND COMPUTER SKILLS

Programming	C, LabVIEW, MATLAB.
Modeling Tools	Simulink, ANSYS FLUENT, COMSOL, Abaqus.
Mathematical Tools	Maple, MATLAB.
CAD	Solidworks, AutoCAD.
Misc	Latex, Photoshop, Dreamweaver, Illustrator.

AREAS OF INTEREST

- Application development,
- Clean coal utilization technologies,
- Drying technology,
- Solar energy systems,
- Energy storage systems (Li batteries).
- Distributed energy resource network,