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RAJENDRA ADHIKARI

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Permanent Address: Khadgabhangyanj -5, Nuwakot, Nepal
Current Address: Manamaiju-2, Kathmandu, Nepal

EDUCATION

Bachelor in Electrical Engineering (2008-2012)
Pulchowk Campus, Institute of Engineering,
Tribhuvan University, Nepal
Aggregate Percentage: 81.45%

Intermediate in Science
St. Xaviers College, Tribhuvan University, Nepal

RESEARCH EXPERIENCE

Research Assistant (2012 OCT – 2013 May)
Institute of Engineering, Pulchowk Campus
Project Title: *"IMPROVED ELECTRONIC LOAD CONTROLLER FOR THREE PHASE ISOLATED MICRO-HYDRO GENERATOR "*
Principal Researcher: Prof. Dr. Indraman Tamrakar

- Responsible for key design improvements.
- Responsible for carrying out MATLAB simulations, hardware assembly and testing
- Responsible for programming the microcontroller.

Research Assistant (2013 Aug - current)
Nepal Power Engineer's Society, Kathmandu
Project Title: *"Design and Fabrication of Battery-Ultracapacitor Based Storage Mix for Vehicular and Stand-alone Power System"*
Principal Researchers: Dr. Netra Gyawali, Dr. Navaraj Karki

- Responsible for designing the controller
- Responsible for performing the MATLAB simulation of the controller
- Responsible for hardware assembly and testing of the controller

PROJECT WORKS

Team Leader
"DEVELOPMENT OF CHESS-PLAYING ROBOT"
A robotic arm connected with a computer plays chess with a human. The computer side is handled by a MATLAB software equipped with a standard chess engine. The robotic side consists of a set of stepper motor controlled by a PIC microcontroller.
Was the best attraction in Annual LOCUS Science Fair, 2011, Pulchowk Campus.

- Responsible for work division and for making sure the project is on the right track.
- Wrote a pseudo-chess engine program in C++ and a control software in MATLAB.
- Designed the driving circuit for the robot motors.

Team Leader
"DEVELOPMENT OF SINGLE PLAYER ARTIFICIALLY INTELLIGENT TANK GAME" on C++ platform.
An arcade type 2-D video-game where human-controlled 'tank' navigates around obstacles to battle with computer tanks. The computer tanks are equipped with rudimentary intelligence: they can search for and attack human-tanks using an A* path finding algorithm.
Part of the mini-project assignment in the C++ course.

- Responsible for dividing the works among members and guiding the group.
- Responsible for devising the OOP model implementing the A* algorithm to enable computer-tanks to chase human-tanks.

PUBLICATIONS

"IMPROVED ELECTRONIC LOAD CONTROLLER FOR THREE PHASE ISOLATED MICRO-HYDRO GENERATOR" at the 5th International Conference on Power and Energy systems, Oct 2013, Kathmandu, Nepal.

TEACHING EXPERIENCE

Project Supervisor (2013 Apr – 2013 Aug)
"Final Year Project on four quadrant operation of a DC motor using Arduino"
National College of Engineering, Kathmandu

- Guided a four member student team to the completion of the project

MATLAB Trainer (2013 Jan 18 – 30)
Kantipur Engineering College, Kathmandu

- Designed and delivered a 12-day basic MATLAB training course for 4th year Electronics Engineering students.

INTERNSHIP

Part-time Intern at Nepal Electricity Authority (NEA) (2012 Oct – 2013 Apr)
NEA is the largest and the only government owned Power Company of Nepal.
Internship Supervisor: Er. Keshab Shrestha

1. Worked on Seti Hydropwer Control Panel installation project
    - Read and analyzed the old drawings and figured out how to interface new protection panel with the old infrastructure
    - Troubleshot various problems during testing
    - Was a part of investigating team to find the cause of a circuit breaker fire.
2. Worked at Hetauda Diesel Power Plant
    - Involved in troubleshooting synchronization problems
    - Involved in numerical relay setting through computer softwares

SKILLS

- Good programming skills in C, C++, Mathematica and MATLAB
- Decent programming skills in PHP, Actionscript (flash), and Visual Basic
- Good knowledge of simulation tools like, MATLAB Simulink and Proteus ISIS.
- Competent at programming and using PIC and Arduino microcontroller
- Good at AutoCAD Design and Proteus ARES PCB design software.

RESEARCH INTERESTS

- Power System, especially the microgrids and smart grids.
- Power Electronics applications.

REFERENCES

1. Prof. Dr. Indra Man Tamrakar, Department of Electrical Engineering, Institute of Engineering, Tribhuwan University, Final Year Project and Research Supervisor. E-mail : imtamrakar@ioe.edu.np
2. Prof. Dr. Netra Gyawali, Department of Electrical Engineering, Institute of Engineering, Tribhuwan University, Research Supervisor. E-mail netra@ioe.edu.np.
3. Assoc. Prof. Kumudini Koirala, Head of Department, Department of Electrical Engineering, Institute of Engineering, Tribhuwan University. Email: kumudini@ioe.edu.np.
4. Er. Keshab Shrestha, Assistant Manager, Generation and Maintenance Department, Nepal Electricity Authority, Kathmandu, Internship Supervisor. E-mail: keshab_s@nea.org.np.