

Nathan T. de Vera, ECE

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Experience

GRADUATE RESEARCH ASSISTANT | *PHL-MICROSAT STAMINA4SPACE* | JAN 2019-DEC 2020

- Research on a Unity C# Based Diwata 2 Attitude Control Simulation for Reinforcement Learning Optimization
 - Created a weight-based model simulation of Diwata 2 satellite under unity, for accurate force reactions of mass form and reaction wheel locations/mass
 - Accurate interactive reaction wheel attitude control of Diwata 2.
 - Reinforcement Learning for target attitude control using Soft Actor Critic (SAC) algorithm
- Design, fabrication and testing RF filters, controllers and amplifiers for ARU system and other RF projects
- Troubleshooting and management of ARSS ground receiving station. Repair work on UHF/VHF Antennas.
- RF hardware maintenance and testing.
- Conducted training programs and showcase presentations for local and international institutions on satellite communications

STUDENT ASSISTANT | *VBTS PROJECT-PCARI* | JUNE 2017-DEC 2018

- Database maintenance for 8 cellular base stations using Microsoft SQL. Created an automated extraction program using SQL, Bash and SPSS
- Test and evaluation using communication equipment such as SDRs, HF Power Amplifiers and Duplexers using Vector Network Analyzers and Power Meters.
- Created an automation program for sim card initialization into database using bash script and embedded C.

TECHNICAL ENGINEER - TEAM MANAGER | *ICROSS HOLDINGS* | MAY 2015-JUNE 2018

- Created a Website sample and oversaw the implantation of an HRIS for a government contract.
- Setup of sound and lights system for large scale areas of a hotel-resort
- Multiple CCTV/Security system contracts implemented.
- Team manager/Staff coordinator during HR trainings events.
- Spearheaded initial projects on government procurement for electronic laboratory supplies

Activities

APPLICATION HEAD | *WIRELESS COMMUNICATION ENGINEERING LABORATORY (WCEL) UP EEEI* | JUN 2017-DEC 2018

- Managed over 70 students on a yearlong application for the laboratory. Including training, lectures, technical reports and projects on wireless communications systems
- Oversaw and mentored projects from other universities that requested RF equipment usage.

FINANCE HEAD | *MUAY-THAI UP* | JUN 2018-DEC 2020

- Managed the financials of an organization with over 50 active members (and over 50 applicants per semester).
- Regular martial arts training (2x a week) and training of applicants.
- Spearheaded the organization registration renewal process for AY2020

Education

MS EE: COMMUNICATIONS AND COMPUTER NETWORKS

- University of the Philippines Diliman
- (Jan 2019-On Going), ERDT Scholar

Significant Classes Taken

CS259: Network Performance, Modeling and Monitoring.

EE277: Computer Coding Theory

EE298: Advance Cellular Networks

EE274 & 374: Digital Signal

Processing I & II

EE 217: Microwave Systems

EE289S: Satellite Communication

BS ELECTRONICS AND COMMUNICATIONS ENGINEERING

- University of the Philippines Diliman
- Wireless Communication Engineering Laboratory
- Internship: Telmarc Corporation – ISP Company.

Skills

- Proficient in Python, C#, C, and Microsoft Office
- Experience in Web (mySQL, Python Django) Unity game development and Git.
- Experience in RF communication systems computer networks and data processing
- Research Track on Deep Reinforcement Learning, Neural Networks and Data Processing.