

Jose Ildefonso Udang Rubrico

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Education

- Doctor of Philosophy
Department of Precision Engineering
University of Tokyo
September 2006
Completed under a MEXT Scholarship
- Research Student under a MEXT Scholarship
Ota Laboratory, Department of Precision Engineering
University of Tokyo
April 2003 – September 2003
- Master of Science in Electrical Engineering
Major in Computers and Communications
University of the Philippines Diliman
October 2002
- Bachelor of Science in Electrical Engineering
University of the Philippines Diliman
April 1996
- Montessori de Oro High School, 1991
Salutatorian
- Davao Christian High School, 1987
Valedictorian

Positions Held

- Assistant Professor
Department of Electrical and Electronics Engineering
University of the Philippines, Diliman
2002 – 2003
- Instructor
Department of Electrical and Electronics Engineering
University of the Philippines, Diliman
1996 - 2002
- Faculty-in-Charge
Mobile Robotics Laboratory
Department of Electrical and Electronics Engineering
University of the Philippines, Diliman
1998 – 2003

- Chairman
EEE Undergraduate Research Monitoring Committee (UGRMC)
Department of Electrical and Electronics Engineering
University of the Philippines, Diliman
1998 – 1999
- Faculty-in-Charge
Instrumentation Robotics and Controls Laboratory (IRC)
Department of Electrical and Electronics Engineering
University of the Philippines, Diliman
1997 – 1998

Licensure

- Registered Electrical Engineer #4239
Professional Regulation Commission, Republic of the Philippines

Achievements and Awards

- Top 6, Registered Electrical Engineer Licensure Examination, October 1996
- Cited by SMART as Outstanding Graduate for Engineering, 1996
- Thesis chosen in the College Undergraduate Research Competition, 1996
- Gold Medalist (Team) in IIEE National Quiz Shows, 1995 - 1996
- Area Award in Mathematics, 1991
- Regional Math Olympian, 1989

Academic Contributions

- Course Outline for ECE197/EE298 (special topics): Implementations in Behavior-Based Mobile Robotics. 2001.
- Course Outline for ECE197 (special topics): Introduction to Behavior-Based Mobile Robotics. 1999.
- Lab Manual (includes: Student and Instructor's Manual, and Discussion of Theory) for EE 30 (Electrical Instrumentation and Measurements Laboratory). 1998.
- Co-authored the EEE Department's policies regarding EE 198.x (special problems in EE, ECE, and CoE). 1997 – 1998.

Seminars and Extension Work

- Lectured on the Laplace Transform and Basics of Digital Signal Processing (DSP) in a series of seminars conducted for the technical staff of Intel Philippines. The seminars were conducted in the National Engineering Center in October and November 2000 respectively.
- Lectured on the theory and practical use of the PSpice (simulation) feature of OrCAD 9 for the technical staff of ASTEC Philippines. This was conducted in the National Engineering Center in August 2000.

- Delivered a seminar on the nature and use of EMAIL and FTP on the Internet for the Human Resource and Development Office (HRDO) Staff of the University of the Philippines Diliman, held in the National Engineering Center in May 2000.
- Lectured on "Digital Circuits" for the American Power Conversion (APC) Inc. seminar held in Cavite dated November 1999. The Lecture was repeated in January 2000 for APC Laguna and again in January 2001 for EMC Philippines (Quezon City).
- Lectured on "Principles and Applications of Digital ICs" for the National Engineering Center's (NEC) Continuing Education Program, 1997-1999.
- Started the Mobile Robotics Laboratory as a Division of the IRC lab in 1998. It is now recognized (since 1999) as a separate and autonomous laboratory in the EEE Department of the University of the Philippines.

Academic Papers

- J.I.U. Rubrico, "High-level Planning and Scheduling of Multiple Intelligent Agents in Warehouse Management", PhD Dissertation, The University of Tokyo, September 2006.
- J.I.U. Rubrico, J. Ota, T. Higashi, H. Tamura, "Scheduling Multiple Agents for Picking Products in a Warehouse", in Proceedings of the International Conference on Robotics and Automation (ICRA 2006), Orlando, May 2006.
- J.I.U. Rubrico, J. Ota, T. Higashi, H. Tamura, and M. Akiyoshi, "Multi-agent scheduling in a warehouse", in Proceedings of the International Conference on Instrumentation, Control and Information Technology (SICE 2005), Okayama, August 2005.
- J.I.U. Rubrico, J. Ota, T. Higashi, and H. Tamura, "Route assignment heuristics for picking products in a warehouse", in Human and Artificial Intelligence Systems: From Control to Autonomy, in Proc. 4th Int. Symp. on Human and Artificial Intelligence Systems, K. Murase, L. Jain, K. Sekiyama, T. Asakura, Eds., Advanced Knowledge International, Dec. 2004, pp. 341-346.
- J.I.U. Rubrico, J. Ota, T. Higashi, H. Tamura, and M. Akiyoshi, "Route generation for warehouse management using fast heuristics," IEEE/RSJ Int. Conf. on Intelligent Robots and Systems, Sendai, October 2004.
- J.I.U. Rubrico, "A Fuzzy-Based Motor Speed Controller For An All-Terrain Wheeled Mobile Robot", Thesis, Master of Science in Electrical Engineering, University of the Philippines Diliman, April 2002.
- J. Tetanco, C. Sia, and J.I.U. Rubrico, "Robot Sumo Wrestling Kit", Second National ECE Conference, University of Santo Tomas, Philippines, November 2001.
- W. Soleño, R. Tañeza, and J.I.U. Rubrico, "Mobile Robotics Simulation Tool", Second National ECE Conference, University of Santo Tomas, Philippines, November 2001.
- L. Gueta, T. Idica, P. Magpantay, F. Tan, and J.I.U. Rubrico, "Indoor Mobile Robot Platform", Second National ECE Conference, University of Santo Tomas, Philippines, November 2001.

- J.I.U. Rubrico, "A Report on SEVEN, A Behavior-Based Mobile Robot", First National ECE Conference, De LaSalle University, Philippines, December 2000.
- R. Sevilla and J.I.U. Rubrico, "RCIX, Robotics Core Toolkit", First National ECE Conference, De LaSalle University, Philippines, December 2000.

Projects

- Full-featured Simulator for product picking in a warehouse using multiple intelligent agents. 2005 – 2006.
- Software Library for generating plans and scheduling multiple intelligent agents for product picking in a warehouse. 2003 – 2006.
- All-Terrain wheeled mobile robot. 2002.
- TRAX - An autonomous mobile robot with self-charging capability. 2000.
- BAKUKANG - A Behavior-Based line-following Mobile Robot developed for the first Philippine MDC (Microcontroller Design Competition) robot race. 2000.
- SEVEN - A Microcontroller-Based Mobile Robot with the following features: obstacle avoidance, light following and wall following behaviors, open-loop and closed-loop speed control. 1999.
- "A Maze Traversing Mobile Robot with a Magnetic Object as a Goal". Undergraduate Thesis. 1996.
- Temperature Control System for the Mechanical Engineering Department. Done while a Student Assistant under the Instrumentation Robotics and Controls Laboratory. 1995.

Undergraduate Thesis Adviser for the Following Projects

1. "Radio-Frequency Communication for Mobile Robots" (Pabiran, 2003)
2. "Infrared Communications for Mobile Robots II" (Mapanoo, 2003)
3. "Mobile Robot Simulator with Networking" (Dalusong, 2002)
4. "Mobile Robot Kit" (Ruenata, 2002)
5. "SMS-Enabled Mobile Robot" (Villasanta, 2002)
6. "Tarak-Tarak: A Mobile Robot Simulator" (Soleño and Tañeza, 2002)
7. "Indoor Mobile Robot Platform Phase II" (Estil, Jimenez, Ruenata, 2002)
8. "Infrared Communications for Mobile Robots" (Tomagan and Valdez, 2002)
9. "Sumobots" (Sia and Tetangco, 2001)
10. "Morbs - Mobile Robot Simulator" (Cocjin, 2001)
11. "Indoor Mobile Robot Platform" (Gueta, Idica, Magpantay, Tan, 2001)
12. "Vision-Based 2-D Motion Tracking with a Robotic Manipulator" (Bermundo, 1999)
13. "Legged Mobile Robot Implementation" (Enrique, 1999)
14. "Robotics Core Toolkit - A Generic Multitasking Operating System for the MC68HC11" (Sevilla, 1999)
15. "Implementation of an Autonomous Mobile Robot" (Blancas, 1997)