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Europass Curriculum Vitae

Academic Profile

Personal information

Surname(s) / First name(s)	**Giorgos A. Demetriou**	
Telephone(s)	+357 25 730975	Mobile: +357 96 270042
E-mail(s)	g.demetriou@frederick.ac.cy	
Website	staff.frederick.ac.cy/com.dg | robotics.frederick.ac.cy	
Nationality(-ies)	Greek - Cypriot	
Current Position		
Dates	2006 – Present	
Employer Name[5]	Frederick University	
Occupation or position(s) held[6]	Associate Professor	
Main activities and responsibilities[7]	Associate Professor, Department of Electrical Engineering, Computer Engineering and Informatics. Founder and Director, Robotics & Automated Systems Laboratory (RAS Lab). Co-Founder and Co-Director, Akadimia Rompotikis (Robotics Academy).	
Scientific Domain/ Research Interests	**Robotics and Autonomous Systems** • Marine robotics: USVs, ROVs and AUVs • Navigation, localization and SLAM • GNSS-challenged and GNSS-denied localization • Sensor integration, fusion and perception • Embedded and real-time robotic systems • Autonomous control, path planning and collision avoidance • Robotic system integration and field validation	
Education		
Dates[1]	August 1994 - May 1998	
Title of qualification awarded[2]	Ph.D. in Computer Science	
Name of awarding institution[3]	University of Louisiana, Lafayette	
Key features[4]	Work focused on robotics and more specifically on autonomous robots. Ph.D. dissertation title: “Hybrid Control Architecture for an Autonomous Underwater Vehicle (AUV)”	
Dates	January 1992 – May 1994	
Title of qualification awarded	M.Sc. in Computer Engineering	
Name of awarding institution	University of Louisiana, Lafayette	
Key features	Control architectures, robotic simulation packages, virtual reality, tele-operation of robotic arms.	
Dates	January 1986 – December 1990	
Title of qualification awarded	B.S. in Electrical Engineering (Computer Engineering Option)	
Name of awarding institution	University of Louisiana, Lafayette	
Key features	Electrical Engineering with a minor in computer engineering.	

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Work experience	
Dates	2006 – Present
Employer Name[5]	Frederick University
Occupation or position(s) held[6]	Associate Professor
Main activities and responsibilities[7]	Department of Electrical Engineering, Computer Engineering and Informatics Founder and Director, Robotics & Automated Systems Laboratory (RAS Lab) Co-Founder and Co-Director, Akadimia Rompotikis (Robotics Academy) Teaching and research in robotics, computer engineering and autonomous systems.
Dates	August 2004 – December 2005
Employer Name	Purdue University, Fort Wayne
Occupation or position(s) held	Assistant Professor, Computer Engineering
Main activities and responsibilities	Academic teaching and research in computer engineering.
Dates	January 2000 – May 2004
Employer Name	University of Southern Mississippi – Gulf Coast
Occupation or position(s) held	Assistant Professor, Computer Science and Computer Engineering
Main activities and responsibilities	Computer Science Department Coordinator; Graduate Coordinator; Director, Robotics and Graphics Laboratory.
Dates	November 1998 – December 1999
Employer Name	US Test, Inc., Louisiana, USA
Occupation or position(s) held	Systems Engineer
Main activities and responsibilities	Designed and developed ultrasonic testing systems for underground fuel-storage tanks.
Dates	January 1998 - May 1998
Employer Name	University of Louisiana at Lafayette (ULL)
Occupation or position(s) held	Adjunct Professor
Main activities and responsibilities	Teaching Electrical Engineering and Computer Engineering.
Dates	1983-1985
Employer Name	Cyprus National Guard
Occupation or position(s) held	First Lieutenant, Special Forces (Green Berets)
Professional Organisations	▪ Institute of Electrical and Electronics Engineers (IEEE) ▪ Association of Computing Machinery (ACM)
Awards[9]	▪ Conference Best Paper Award, "Indoor Mobile Robot Localization Using a Wireless Network: WiFiBot Case Study," ICAI 2008, Las Vegas, Nevada, USA, 2008. ▪ Achievement Award, WORLDCOMP 2007, Las Vegas, Nevada, USA. ▪ Achievement Award, WORLDCOMP 2006, Las Vegas, Nevada, USA. ▪ SILMA Inc. National Award, simulation of manufacturing cells with realistic constraints using the SILMA CimStation platform, 1998.
Professional Contribution[10]	
Evaluations	▪ Evaluator, Information Society Technologies (IST) 2005–06 Work Programme in Advanced Robotics, European Commission, Brussels, 2006. ▪ Evaluator, Research Promotion Foundation of Cyprus.
Scientific Reviewing	▪ Reviewer, IEEE Journal of Intelligent and Robotic Systems. ▪ Reviewer, International Journal on Artificial Intelligence Tools (IJAIT).

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	▪ Reviewer, IEEE Mediterranean Conference on Control and Automation (MED), including MED 2026. ▪ Reviewer, WORLDCOMP, 2006–2008. ▪ Reviewer, ICAI, 2006–2008. ▪ Reviewer, IEEE ICRA, 2004. ▪ Reviewer, Multi Conference in Computer Science and Computer Engineering, 2003–2004. ▪ Reviewer, FLAIRS, 2001–2002
Conference Organization & Leadership	▪ Member of the Organizing Committee, IEEE International Conference on Control & Automation (ICCA 2025). ▪ Chair, "Education and Training," IEEE Mediterranean Conference on Control and Automation (MED), 2016 and 2013. ▪ Chair, "Unmanned Ground Vehicles," International Conference on Artificial Intelligence (ICAI), 2008 and 2007. ▪ Chair, "Sensor Based Navigation and Control of Unmanned Ground Vehicles," ICAI 2006. ▪ Chair, International Conference on Modeling, Simulation and Visualization Methods, 2004. ▪ Chair, IEEE International Conference on Robotics and Automation (ICRA), 2004. ▪ Chair, Multi Conference in Computer Science and Computer Engineering, 2003. ▪ Chair, Florida Artificial Intelligence Research Society (FLAIRS), 2002 and 2001.
Program Committees	▪ The 24th IEEE Mediterranean Conference on Control and Automation (MED'16), Athens, Greece, 2016. ▪ The 21st Mediterranean Conference on Control and Automation (MED'13), Chania, Greece, June 25–28, 2013. ▪ The 2008 World Congress in Computer Science, Computer Engineering and Applied Computing (WORLDCOMP'08), Las Vegas, Nevada, USA. ▪ The 2007 World Congress in Computer Science, Computer Engineering and Applied Computing (WORLDCOMP'07), Las Vegas, Nevada, USA. ▪ The 2006 World Congress in Computer Science, Computer Engineering and Applied Computing (WORLDCOMP'06), Las Vegas, Nevada, USA. ▪ The 2002 Florida Artificial Intelligence Research Society (FLAIRS), Pensacola, Florida, USA.
Service to the Institute	▪ Founder and Director, **Robotics & Automated Systems Laboratory (RAS Lab)**, Frederick University. ▪ Co-Founder and Co-Director, **Akadimia Rompotikis (Robotics Academy)**. ▪ Participation in Departmental and University committees. ▪ Participation in **Researcher's Night** and other University outreach activities. ▪ Development and delivery of robotics workshops and educational activities for public and private schools in Cyprus. ▪ Collaboration with the **Cyprus Ministry of Education** on robotics-related educational activities. ▪ Robotics seminars and workshops for teachers, students and community organizations. ▪ Judge, **World Robotics Olympiad (WRO)**. ▪ Coordinator of the Computer Science graduate and undergraduate programs, University of Southern Mississippi – Gulf Coast. ▪ Director, Robotics and Graphics Laboratory, University of Southern Mississippi – Gulf Coast. ▪ Contributed to establishing the M.S. in Computer Science program at Stennis Space Center. ▪ Restructured the Computer Science curriculum at USM-GC. ▪ Established the Robotics Laboratory and Graphics Laboratory at USM-GC. ▪ Developed graduate and undergraduate courses in Robotics and Computer Graphics. ▪ Founded the local ACM student chapter. ▪ Organized high-school programming competitions in coastal Mississippi.
Research Projects	
Duration, Funding Ag. and Funding	**2027–2028**: Research and Innovation Foundation (RIF), ENTERPRISES/0326, total project budget: €176,977.50.
Title	PANOPTIS — Camera-based AI Surveillance for the Detection of Oil and Detergent Pollution at Coastal and Port Installations
Role and Contribution	Frederick University / RAS Lab contribution: PTZ camera and edge-trigger development, data collection, system integration and field validation.

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Duration, Funding Ag. and Funding	**2025–2027**: Research and Innovation Foundation (RIF), CODEVELOP/0824/0173, total project budget: €598,915.
Title	Smart Nature Based Monitoring Solutions: Opportunities through Rooftop Farming (ORA)
Role and Contribution	Contribution to sensing, IoT/communications, automated monitoring and system integration for the development of a smart monitoring and management system for rooftop vegetable cultivation.
Duration, Funding Ag. and Funding	**2025–2028**: Research and Innovation Foundation (RIF), BILATERAL/ISRAEL MOST/0224, total project budget: €200,000.
Title	Hull Antifouling and Continuous Cleaning System (HACCS)
Role and Contribution	Frederick University / RAS Lab contribution: Development of the underwater camera mechanism and waterproof imaging system, collection of underwater image and sensor data, and support for experimental evaluation and validation.
Duration, Funding Ag. and Funding	**2023–2025**: Research and Innovation Foundation (RIF), DUAL USE/0922, total project budget: €387,996.
Title	Integrating Remote Sensing and Artificial Intelligence to Monitor Maritime Activities across Lemesos Bay (IRSAI)
Role and Contribution	Development and deployment of the SeaBot Unmanned Surface Vehicle (USV) for maritime surveillance, oil detection and pollution-response operations.
Duration, Funding Ag. and Funding	**2012–2014**: Research Promotion Foundation of Cyprus, ΕΠΙΧΕΙΡΗΣΕΙΣ/ΠΡΟΪΟΝ/0311, total project budget: €206,940.
Title	Development of a 3D Design Software for Children
Role and Contribution	Development of the 3D design environment and the inverse-kinematics functionality required by the software.
Duration, Funding Ag. and Funding	**2009–2012**: Research Promotion Foundation of Cyprus, ΕΠΙΧΕΙΡΗΣΕΙΣ/ΕΦΑΡΜ/0308/60, total project budget: €170,000.
Title	Robotic Models for Teaching "Control Systems" in Design and Technology
Role and Contribution	Development of the Engino Robotics Platform controller, control software and associated educational robotics technologies.
Duration, Funding Ag. and Funding	**1995-1998**: National Science Foundation, (BES 95-06771); Funding: $270,717.00 for three years.
Title	"Object Identification, Classification and Avoidance in 3-D Underwater Automated Surveillance"
Role and Contribution	Doctoral Dissertation - Developed the control architecture of the underwater vehicle.
Publications	
Book Chapters	▪ G. A. Demetriou, "Mobile Robotics in Education and Research**"** for book "Mobile Robots", InTech Publications, 2011 ▪ N. Eteokleous, G. A. Demetriou, A. Lambrou, "The Pedagogical Framework for Integrating Robotics as an Interdisciplinary Learning - Cognitive Tool", for book "Information and Communications Technology: New Research", Nova Science Publishers, Inc., 2013
Doctoral Thesis	"Hybrid Control Architecture for an Autonomous Underwater Vehicle (AUV)", University of Louisiana at Lafayette, 1998
Journal Publications	▪ G. Demetriou, "A Remotely Operated Vehicle for Education," International Journal of Emerging Technologies in Learning, 2019. ▪ G. Demetriou and N. Eteokleous, "Mobile Robotic Kits for Education," International Journal of Emerging Technologies in Learning, 2016. ▪ G. Demetriou and G. Simmons, "VisiLogic: Digital Logic Education Through Interaction," The Cyprus Journal of Science and Technology, Vol. 5, No. 3, 2007. ▪ G. Demetriou and A. Lambert, "An Extensible Object Oriented Virtual Robotics Development Platform for Use in Robotics Education and Research," IEEE Robotics & Automation, Vol. 12, No. 4, pp. 75–91, December 2005. ▪ G. Demetriou, C. Brown, and L. Perkins, "An Algorithm for Geolocation: Marine Buoys in a Fully Immersive Three-Dimensional Bathymetric Environment," Journal of Mississippi Academy of Science, Vol. 49, No. 1, January 2004.

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	▪ K. P. Valavanis, D. Gracanin, M. Matijasevic, R. Kolluru, and G. A. Demetriou, "Control Architectures for Autonomous Underwater Vehicles," IEEE Control Systems, Vol. 17, No. 6, pp. 48–64, December 1997.
Conference Publications	▪ G. A. Demetriou, A. Merry, P. Petridis, K. Zacharia, and N. Christodoulou, "A Smart Rooftop Farming Platform for Urban Sustainability: IoT Sensing, Plant Phenotyping and Automated Irrigation in the ORA Testbed," presented at EENVIRO 2026, Bucharest, Romania, November 1–4, 2026. ▪ A. Lazarou, M. Christofi, C. Paparistodimou, and G. A. Demetriou, "SARISA: A Cost-Effective Open-Source USV Platform for Port Security Applications," IEEE Mediterranean Conference on Control and Automation (MED 2026), pp. 1072–1076, 2026. ▪ G. A. Demetriou, S. Lazaridis, G. Trimithiotis, M. Christofi, A. Louka, and S. Alkiviadous, "Open-Source BlueOS for Controlling the SeaBot USV," IEEE Advancements in Sustainable Engineering (CASE 2025), Lemesos, Cyprus, September 11–12, 2025. ▪ G. A. Demetriou, A. Menelaou, D. Kletou, P. Kleitou, C. Kakoulli, A. Artusi, X. Milidonis, M. Angelini, G. Trimithiotis, and S. Lazaridis, "IRSAI: Integrating Remote Sensing and Artificial Intelligence to Monitor Maritime Activities across Lemesos Bay," The 19th IEEE International Conference on Control & Automation (ICCA 2025), Tallinn, Estonia, June 30–July 3, 2025. ▪ G.A. Demetriou, S. Ioannou, A. Hadjipieri, I.E. Panayidou, A. Papasavva, A. Savva, "ERON: A Flexible Autonomous Surface Vessel," in The 24th Mediterranean Conference on Control and Automation (MED 16), Athens, Greece, June 21-24, 2016. ▪ G.A. Demetriou, A. Hadjipieri, I.E. Panayidou, A. Papasavva, S. Ioannou, "ERON: A PID Controlled Autonomous Surface Vessel," in 18th Mediterranean Electrotechnical Conference (MELECON 16), Lemesos, Cyprus, April 18-20, 2016. ▪ G. A. Demetriou, A. Lambrou, N. Eteokleous, C. Sisamos, "The Engino Robotics Platform (ERP) Controller for Education", 21st IEEE Mediterranean Conference on Control and Automation (MED '13), June 25-28 2013, Platanias - Chania, Crete, Greece. ▪ G. A. Demetriou, "Robotic Wheelchairs", 9th International Conference on Information Technology and Applications in Biomedicine (ITAB2009), November 5-7, 2009, Larnaca, Cyprus. ▪ G. A. Demetriou, A. Vystavkin, S. Anastasiou, A. Theofilou, C. Giannopoulos, D. Yerolemou. "*Indoor Mobile Robot Localization Using a Wireless Network: WiFiBot Case Study*", The 2008 International Conference on Artificial Intelligence (ICAI'08), July 14-17, 2008, Las Vegas, Nevada, USA. ▪ G. Demetriou, "A Survey of Sensors for Localization of Unmanned Ground Vehicles (UGVs)," The 2006 International Conference on Artificial Intelligence (ICAI 2006), Las Vegas, Nevada, June 26–29, 2006. ▪ G. Demetriou, G. Simmons. *"Visual Transistors: An Intelligent Tutorial for Teaching Transistor Functionality for Digital Logic Students",* The 2005 International Conference on Machine Learning; Models, Technologies and Applications, June 23-26, 2005, Las Vegas, Nevada, USA. ▪ C. Brown, G. Demetriou, L. Perkins. *"Geolocating Marine Buoys in a Fully Immersive Three Dimensional Bathymetric Environment*", The 2004 International Conference on Modeling, Simulation and Visualization Methods, June 21-24, 2004, Las Vegas, Nevada, USA. ▪ G. Demetriou, G. Simmons. "*VisiLogic: An Intelligent Visual Tool for Teaching Digital Logic."* The 2004 International Conference on Machine Learning; Models, Technologies and Applications, June 21-24, 2004, Las Vegas, Nevada, USA. ▪ G. Demetriou, A. Lambert. "*VROBO: Virtual Robotics Development Platform for Use in Robotics Education and Research",* Hawaii International Conference on Computer Sciences, January 15-18, 2004, Honolulu, Hawaii, USA. ▪ G. Demetriou, G. Simmons. *"Visual K-Map: An Intelligent Tutorial for Solving Karnaugh Maps",* The 2003 International Conference on Machine Learning; Models, Technologies and Applications, June 23-26, 2003, Las Vegas, Nevada, USA. ▪ G. Demetriou, K. P. Valavanis, *"A State Configured Sensor Based Control Architecture for an Autonomous Underwater Vehicle",* 5th IEEE Mediterranean Symposium on, "New Direction in Control and Automation ", Paphos, Cyprus, July 1997. ▪ D. Gracanin, K. P. Valavanis, G. Demetriou, R. Kolluru, "*Development of a Virtual Reality Testbed and AUV Control Architecture for Coastal / Shallow Water Environments*", Proceedings of COSU'97 Coastal Ocean Space Utilization, Vol. 2, pp: 305-320, Singapore, May 1997. ▪ G. Demetriou, M. Talley, D. Gracanin, K. P. Valavanis, *"A Virtual Reality Environment for Real-Time Tele-Robot Control: The AdeptOne/AdeptThree Case Study*", 4th IEEE

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	Mediterranean Symposium on New Direction in Control and Automation, Chania, Crete, Greece, June 10 - 13, 1996.
Edited Conference Proceedings	▪ Associate Editor for the proceedings of The 21st Mediterranean Conference on Control and Automation (MED'13), Vol. I, June 2013, Platanias, Chania, Greece, 2013 ▪ Associate Editor for the Proceeding of the 2008 International Conference on Artificial Intelligence (ICAI'08), Vol. I and II, June, 2008, Las Vegas, Nevada, USA ▪ Associate Editor for the Proceeding of the 2007 International Conference on Artificial Intelligence (ICAI'07), Vol. I and II, June, 2007, Las Vegas, Nevada, USA ▪ Associate Editor for the Proceeding of the 2006 International Conference on Artificial Intelligence (ICAI'06), Vol. I and II, June, 2006, Las Vegas, Nevada, USA
Additional information	
Research and Development Experience	▪ Development of the **ΣΑΡΙΣΑ Uncrewed Surface Vehicle (USV)** for maritime surveillance, port-security and research applications. ▪ Development and field deployment of the **SeaBot Unmanned Surface Vehicle (USV)** within the IRSAI project. ▪ Development and experimental evaluation of **mmWave radar-based SLAM** for USV localization in GNSS-challenged environments. ▪ Development of the **HPΩN family of Unmanned Surface Vehicles (USVs)** for research in autonomous navigation, control, communications and sensing. ▪ Development of the **Engino Robotics Platform (ERP)** controller, embedded hardware and control software, subsequently commercialized by Engino Toy Systems. ▪ Development of a **Remotely Operated Vehicle (ROV)** for underwater exploration and inspection. ▪ Development of an **all-terrain outdoor mobile robot** for surveillance applications. ▪ Development of a system for **marine buoy geolocation in a 3D bathymetric environment**. ▪ Development of an **electronic system for measuring sea-current speed and direction**. ▪ Development of **VROBO**, a virtual robotics development platform for education and research. ▪ Development of **VisiLogic**, an intelligent tutorial environment for Digital Logic Design. ▪ Development of the control architecture for an **Autonomous Underwater Vehicle (AUV)** as part of doctoral research.
Consultancy & Industry Collaboration	▪ RTD Talos Ltd — External Collaborator / Marine Robotics Lead (current): R&D collaboration in marine robotics, unmanned systems, integration and technology development, and research and innovation proposals. ▪ P.C. ADMIN 22 Ltd — External Technical / R&D Consultant (current): Technical consultancy on robotics, software and AI-enabled systems, and the identification and preparation of research and innovation funding proposals.
Student Supervision (Selected)	**Ph.D. Dissertation Committees** ▪ Georgios Kyprianou, Ph.D., Neapolis University Pafos, "Path Planning in the Industry 4.0 Era: From Multi-Robots to Educational Platforms. Challenges and Trends," 2023 — Doctoral Committee Member. ▪ Savvas Piperidis, Ph.D., Technical University of Crete, "Collaborative Behavior of Autonomous Underwater Robotic Vehicles," 2014 — Ph.D. Examination Committee Member. **Selected Master's Theses and Projects** ▪ Stefanos Lazaridis, Master's Thesis, *"Hardware Implementation for the SeaBot USV – Electronics,"* Frederick University, 2026. ▪ Antonis Lambrou, M.S., *"The Engino Robotics Platform (ERP),"* 2013. ▪ Christopher Brown, M.Sc. in Computer Science, *"An Algorithm for Geolocation: Marine Buoys in a Fully Immersive Three-Dimensional Bathymetric Environment,"* 2004. ▪ Allan Lambert, M.Sc. in Computer Science, *"An Extensible Object-Oriented Virtual Robotics Development Platform for Use in Robotics Education and Research,"* 2003. ▪ Tony Vann, M.Sc. in Computer Science, *"The Harmful Algal Blooms Observing System Weather Tool (HABSOS-WT),"* 2003. ▪ Michael Davide, M.Sc. in Computer Science, 2003. ▪ Jack Summer, M.Sc. in Computer Science, *"Laboratory Information Management System for the Watson Electric Generating Plant,"* 2002. ▪ Mary Steelman, M.Sc. in Computer Science, *"OpenGL and Java,"* 2001. ▪ David Rodriguez, M.Sc. in Computer Science, *"Dry-docking Ballast Schedules Program,"* 2000. Selected Undergraduate Theses

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	▪ Pavlos Nikou, “Vision-Based Obstacle Detection and Collision Avoidance for the ΣΑΡΙΣΑ Unmanned Surface Vessel: Monocular Camera Perception with ArduPilot Waypoint Guidance,” Frederick University, 2026. ▪ Andreas Lazarou, “Development of a Radar-Based SLAM Module for Autonomous Localization,” Frederick University, 2025–2026. ▪ Christodoulos Xenofontos, “Design and Development of an Unmanned Ground Vehicle (UGV) Using OpenHD, Raspberry Pi, and PiBorg Motor Controller,” Frederick University, 2026. ▪ Christos Paparistodimou, “Dual-Antenna RTK-GNSS Navigation System for SARISA USV: Magnetometer-Independent Heading and Precision Positioning,” Frederick University, 2026. ▪ Sofiia Nifontova, “System Analysis and Design of the ORA Smart Rooftop Farming IoT Platform,” Frederick University, 2026. ▪ Andreas Hadjipieri, B.S., “ERON: Unmanned Surface Vehicle,” 2017. ▪ Nasia Theodorou, “Autonomous Rescue Boat System – ERON,” 2017. ▪ Andreas Chrisafis, “Unmanned Ground Vehicles (UGV),” Frederick University. ▪ ERON undergraduate theses (2016): Irene Erika Panayidou, “Control System for ERON – Autonomous Surface Vessel”; Andreas Savva, “Control Software for ERON”; Antonis Papasavva, “ERON – Communication Module”; and Stavros Cassapis, “Object Detection and Tracking for ERON.” ▪ Apostolis Charalambous, “LUROMATIC ROV,” Frederick University, 2014. ▪ Orestis Michaelides, “Arduino GPS System for Measuring Distance and Speed,” Frederick University, 2014. ▪ Marios Michael, B.S., “Beaglebone Based Mobile Robot (B.B.M.R.),” Frederick University, 2010. ▪ WiFiBot localization theses (2008–2009): Demetra Gerolemou (Spring 2009), Andrey Vystavkin (Spring 2008), Socrates Anastasiou (Spring 2008), and Constantinos Giannopoulos (Spring 2008), “Indoor Mobile Robot Localization Using a Wireless Network: WiFiBot Case Study.” ▪ Rondrell Flowers, B.S. Honors Project, “Visual K-Map: An Intelligent Tutorial for Solving Karnaugh Maps,” 2003.

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