

Joseph Anthony C. Hermocilla

Institute of Computer Science
College of Arts and Sciences
University of the Philippines Los Baños
College, Los Baños, Laguna 4031
Philippines

Website: <https://jachermocilla.org>
Work Email: jchermocilla@up.edu.ph
Personal Email: jachermocilla@gmail.com
Phone: +63 (49) 536-2313
Mobile: (upon request)

Current Position

Assistant Professor(with tenure), Institute of Computer Science, University of the Philippines Los Baños, 2008 - present

Education

M.Sc. in Computer Science, University of the Philippines Los Baños, 2008
B.Sc. in Computer Science, University of the Philippines Los Baños, 2002

Research Interests

Computer Systems and Networks, including operating systems, computer architecture, distributed systems, cloud computing, high-performance computing, drones, and cybersecurity. PhD work (on-going) is on developing various approaches to efficiently and effectively utilize cloud computing for HPC and computational science workloads in private and hybrid clouds.

Selected Peer-Reviewed Publications

- R C Ramirez, E S Agulto, S D Glaser, Z Zhang, J A C Hermocilla, and V B Ella. Development of a real-time wireless sensor network-based information system for efficient irrigation of upland and lowland crop production systems. *IOP Conference Series: Earth and Environmental Science*,1038(1):012028, 2022.
- Marie Betel B. de Robles, Joseph Anthony C. Hermocilla, and Jaderick P. Pabico. Characterization and classification of malware traffic over the tor network. In *Proceedings of the 20th Philippine Computing Science Congress (PCSC 2020)*, pages 78–87, Philippines, 2020. Computing Society of the Philippines.
- Miyah D. Queliste, Joseph Anthony C. Hermocilla, and Jaderick P. Pabico. Design and implementation of an autonomous surface vehicle platform for water quality monitoring. In *Proceedings of the 20th Philippine Computing Science Congress (PCSC 2020)*, pages 14–25, Philippines, 2020. Computing Society of the Philippines.
- Vincent Paul L. Carpio, Katrina Joy M. Abriol-Santos, and Joseph Anthony C. Hermocilla. Skylab: An extensible workflow web application for hpc on the cloud. In *Proceedings of the 17th Philippine Computing Science Congress (PCSC 2017)*, pages 143–148, Philippines, 2017. Computing Society of the Philippines.
- Joseph Anthony C. Hermocilla and Eliezer A. Albacea. Osv-mpi: A prototype mpi implementation for the osv cloud operating system. In *Proceedings of the 14th National Conference on IT Education (NCITE2016)*, pages 203–208. Philippine Society of Information Technology Educators, October 2016.
- Joseph Anthony C. Hermocilla. P2c: Towards scientific computing on private clouds. In *Proceedings of the 12th National Conference on IT Education (NCITE 2014)*, pages 163–168. Philippine Society of Information Technology Educators, October 2014.

Curriculum Vitae as of May 2023

Complete list of publications: <https://jachermocilla.org/publications/jachermocilla-publications.pdf>

- Joseph Anthony C. Hermocilla and Jaderick P. Pabico. Identifying catchment areas near selected mountains in the philippines using flowviz. In *Proceedings of the 10th Philippine Computing Science Congress (PCSC 2010)*. Computing Society of the Philippines, March 2010.
- Joseph Anthony C. Hermocilla and Eliezer A. Albacea. A multiagent system framework for solving the student sectioning problem (extended abstract). In *Proceedings of the 2009 Europe-Philippines International Workshop on Modeling, Simulation, and Grid Computing (MODEL 2009)*. Computing Society of the Philippines, May 2009.
- Joseph Anthony C. Hermocilla. Ics-os: A kernel programming approach to teaching operating system concepts. *Philippine Information Technology Journal*, 2(2):25–30, 2009.

Courses Taught

Graduate: Special Topics: Modern Distributed Systems, Web Application Development, Internet Security

Undergraduate: Introduction to Personal Computing, Object-oriented Programming, Web Programming, Data Structures, Programming Languages, Operating Systems, File Processing and Database Systems, Introduction to Software Engineering, Machine Organization and Assembly Language Programming, Data Communications and Networking, Computer Architecture, Introduction to the Internet, Numerical and Symbolic Computation, Undergraduate Seminar, Special Topics: Smart Card Technologies, Special Topics: Computer and Network Security

Funded Research and Development Projects Involvement

- *Consultant*, WSN-based Water Information System for Efficient Irrigation Water Management in the Philippines [PCARI WiSEIr] (<https://pcari-wisair.uplb.edu.ph/>), funded by CHED-PCARI, 2020-2021
- *Project Staff*, Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines [SARAI] (<https://sarai.ph>), funded by DOST-PCAARRD, 2018-2021
- *Consultant*, Hazard mapping using LiDAR [Phil-LiDAR 1], funded by DOST, 2014-2016
- *Project Leader*, University Health Service Information System [UHS-IS], funded by OVCCA-UPLB, 2007-2010
- *Developer*, A Java application which is part of the Generation Challenge Program [GEMS-GCP Wrapper], funded by IRRI, 2007
- *Project Leader*, Business Permit Acquisition System, funded by the local government of Los Baños [BPAS], 2003-2005

Invited Talks, Presentations, and Workshops

- *Cybersecurity Awareness*, UP Ugnayan ng Pahinungod, 2022
- *Cybersecurity Awareness for UPLB Admin Employees*, ICS Webinar Series, 2020
- *Applications of Aerial Vehicles to Environmental Studies: Experiences and Future Work*, ENS 299 Graduate Seminar, 2017
- *Introduction to Robotics and Drones*, Dayap National High School, Calauan, Laguna, 2016
- *Introduction to Linux*, PGC-Agriculture Bioinformatics, UPLB, 2014
- *Open Source Revolution*, Laguna State Polytechnic Colleges, Los Baños and San Pablo Campuses

Professional Service

- *Reviewer*: Philippine e-Journal for Applied Research and Development (PeJARD), [2022, 2023]
- *Program Committee Member*: Philippine Computing Science Congress (PCSC) [2017, 2016], National Conference on Information Technology Education (NCITE) [2017, 2016, 2015, 2014, 2013], Information and Computing Education Conference (CSP-ICE) [2020, 2019, 2018]
- *Technical Monitor/Reviewer*: Commission on Higher Education - Philippine-California Advanced Research Institutes (CHED-PCARI) , [2020, 2017]
- *Reviewer*: Mindanao Journal of Science and Technology (MJST), Vol. 12 [2014]

Administrative Service

- *Project Development Associate*, Information Technology Center, University of the Philippines Los Baños, 2021-2023
- *Project Development Associate*, University Health Service, University of the Philippines Los Baños, 2011-2012, 2023
- *Division Head*, Computer Training and Extension Division, Institute of Computer Science, University of the Philippines Los Baños, 2010-2011

Other Work Experience

- *ICT Infrastructure Consultant*, PlanMANILA2030, UP Resilience Institute, 2021-2022
- *Network Consultant*, DOST-SEI, 2015
- *Affiliate Assistant Professor*, Faculty of Information and Communication, UP Open University, 2010-2012
- *Instructor*, Institute of Computer Science, University of the Philippines Los Baños, 2002-2008
- *Trainer*, Linux Training (UPLB Employees), Institute of Computer Science, University of the Philippines Los Baños, 2005
- *Trainer*, Open Source Software Development using LAMP (FNRI Employees), Food and Nutrition Institute, Department of Science and Technology, 2006
- *Trainer*, Linux Training (UPOU Employees), University of the Philippines Open University, 2004
- *Trainer*, Linux Training (E-Konek Employees), E-Konek, 2004
- *Tutor*, Programming in C (UPOU Students), University of the Philippines Open University, 2003

Mentoring and Volunteer Work

- *Capstone Project/Thesis Adviser*, Approximately 30+ undergraduate students (list available upon request)
- *Coach/Trainer*, UPLB Academic Cybersecurity CTF Team: UPLB CLK_TCK, 2017-present
- *Coach/Trainer*, UPLB Competitive Programming Team: UPLB ELIENS [<https://uplb-eliens.github.io>], 2002-2017, 2022-present

Technical Skills

- *Operating Systems*: Linux (Ubuntu, Fedora, Debian, CentOS), Microsoft Windows (ver. 3.1 to 10), Android, Solaris, DOS (MS-DOS, FreeDOS), FreeBSD
- *Languages*: C/C++, Java, Python, BASH, Javascript, x86-64 Assembly Language, PHP, HTML, XML, PERL, UML, Visual Basic, SQL, LISP, COBOL, Pascal, C#, JSP
- *IDE/Editor*: Vim, VSCode, Android Studio, Microsoft Visual Studio, Eclipse, NetBeans
- *Databases*: MariaDB, MySQL, SQLite, MongoDB, PostgreSQL, Oracle
- *Web App Development*: LAMP, MEAN, MERN, Django, Flask, Symfony
- *Productivity Tools*: Google Workspace, Microsoft Office 365, LibreOffice, Git/GitHub, Slack, Zoom, LaTeX
- *System/Network Administration*: TCP/IP, DNS/BIND9, Web Server(Apache, Nginx), LDAP, Mail Server (Sendmail), Firewall(iptables), NAS, OpenStack
- *Cybersecurity*: Kali Linux, FlareVM, Wireshark, Metasploit, Ghidra, Nmap, SQLmap, ZAPProxy, GDB, x64dbg
- *Others*: Docker, VirtualBox, QEMU-KVM, Hadoop

Professional Affiliations

- *Member*, Computing Society of the Philippines (CSP)
- *Member*, Philippine Society of Information Technology Educators (PSITE)
- *Member*, Association for Computing Machinery (ACM)

Awards

- *Visiting Researcher*, Korea Advanced Institute of Science and Technology (<http://casys.kaist.ac.kr/>), 2019, Host: Prof. Youngjin Kwon
- *Fellowship Delegate*, 41st Asia Pacific Advanced Network Meeting (<http://meetings.apan.net/apan41/>), 2016
- *Scholarship for PhD*, DOST ASTHRDP-NSC, 2013-2016
- *Visiting Professor*, Far East University (<https://www.kdu.ac.kr/site/eng>), 2011, Hosts: Prof. Chul-soo Ye and Prof. Eui-Seok Nahm
- *UPLB Centennial Professorial Chair*, (UPLB as the National Collaboratory for Computational Sciences: High Performance Computing for Collaboratory Research), 2010