**CURRICULUM VITAE**

**Jose Paolo V. Talusan, PhD**

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| **SUMMARY** |
| * Computer scientist with a background in cyber-physical systems and smart connected communities * Working on optimizing public transportation systems by modeling them as decision-making problems * Worked on internet of things and middleware for deploying systems on resource-constrained devices * Self-motivated and capable of working independently or in a team setting * 5+ years of experience in professional software design and development * Comfortable working with existing and established code bases |

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| **RESEARCH EXPERIENCE** | |
| **Vanderbilt University, TN, USA** | |
| Post-Doctoral Researcher | Apr 2022 – Apr 2023 |
| * Working closely with public transit agencies to develop algorithms to optimize transit workflows. * Formulating optimization problems as Markov Decision processes and solving them using Monte Carlo Search Trees, including EV charger optimization and transit stationing and dispatch. * Mentoring graduate students and improving current workflows by deploying them on the cloud. | |
| **Nara Institute of Science and Technology**, Japan | |
| Post-Doctoral Researcher | Sep 2020 – Mar 2022 |
| * Researching on cyber-physical systems for transportation networks, with an emphasis on internet of things and distributed computing over edge devices * Ongoing collaboration with partner institutes on implementing anomaly-based incident detection for smart transportation cyber-physical systems | |
| Doctoral Researcher | Sep 2017 – Sep 2020 |
| * **Dissertation:** *Design and Implementation of Decentralized Smart City Services on the Edge* * Developed a middleware framework for internet of things (IoT) for use in resource constrained edge devices enabling services without the presence of centralized architectures * Worked in collaboration with other institutes from both USA and Japan as part of the US-JAPAN Network Opportunity (JUNO-2) project | |

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| **EDUCATION** | |
| **Nara Institute of Science and Technology**, Japan | |
| Ph.D. in Engineering, Graduate School of Information Sciences | Dec 2020 |
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| **Ateneo de Manila University**, Philippines | |
| M.S., Electrical Engineering, School of Science and Engineering | Mar 2015 |
| B.Sc., Electronics Communication Engineering, School of Science and Engineering | Mar 2011 |

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| **PUBLICATIONS** |
| 1. **Jose Paolo Talusan**, Michael Wilbur, Abhishek Dubey, and Keiichi Yasumoto. “Route Planning through Distributed Computing by Road Side Units”. IEEE Access (2020), vol. 8, pp. 176134-176148 2. Mohammad Jaminur Islam**\*, Jose Paolo Talusan\***, S. Bhattacharjee, F. Tiausas, A. Dubey, K. Yasumoto, S. Das. “Scalable Pythagorean Mean based Incident Detection in Smart Transportation Systems, TCPS (Under review) |
| **INTERNATIONAL CONFERENCES/WORKSHOPS** |
| 1. **Jose Paolo Talusan,** A. Pettet, M. Wilbur, A. Mukhopadhyay, D. Freudberg, A. Dubey. “Online Approach to Solving Public Transit Stationing and Dispatch Problem”. PA-KDD 2023 (Under review) 2. **Jose Paolo Talusan,** A. Mukhopadhyay, D. Freudberg, A. Dubey. “On Designing Day Ahead and Same Day Ridership Level Prediction Models for City-Scale Transit Networks Using Noisy APC Data”. IEEE BigData 2022 3. Mohammad Jaminur Islam**\*, Jose Paolo Talusan\***, S. Bhattacharjee, F. Tiausas, S. Vazirizade, A. Dubey, K. Yasumoto, S. Das. “Anomaly based Incident Detection in Large Scale Smart Transportation Systems”. ICCPS 2022 4. F. Tiausas, **Jose Paolo Talusan**, Y. Ishimaki, H. Yamana, H. Yamaguchi, S. Bhattacharjee, A. Dubey, K. Yasumoto, S. Das. “User-centric Distributed Route Planning in Smart Cities based on Multi-objective Optimization”. IEEE SMARTCOMP 2021 5. Y. Nakamura, **Jose Paolo Talusan**, T. Mizumoto, H. Suwa, Y. Arakawa, H. Yamaguchi, K. Yasumoto. “ProceThings: Data Processing Platform with In-situ IoT Devices for Smart Community Services”. ICDCN 2021 6. M. Wilbur, C. Samal, **Jose Paolo Talusan**, K. Yasumoto, A. Dubey. “Time-dependent Decentralized Routing using Federated Learning”. ISORC 2021 7. **Jose Paolo Talusan**, M. Wilbur, A. Dubey, K. Yasumoto. “On Decentralized Route Planning Using the Road Side Units as Computing Resources”. International Conference on Fog Computing (ICFC) 2020 8. **Jose Paolo Talusan**, F. Tiausas, K. Yasumoto, M. Wilbur, G. Pettet, A. Dubey, S. Bhattacharjee. “Smart Transportation Delay and Resiliency Testbed based on Information Flow of Things Middleware”. IEEE SMARTCOMP 2019 9. **Jose Paolo Talusan**, F. Tiausas, S. Stirapongsasuti, Y. Nakamura, T. Mizumoto, K. Yasumoto. “Evaluating Performance of In-Situ Distributed Processing on IoT Devices by Developing a Workspace Context Recognition Service”. IEEE PERCOM 2019 10. **Jose Paolo Talusan**, Y. Nakamura, T. Mizumoto, K. Yasumoto. “Near Cloud: Low-cost Low-power Cloud Implementation for Rural Area Connectivity and Data Processing”. IEEE COMPSAC 2018 |

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| **PROFESSIONAL EXPERIENCE** | |
| **R&D Engineer/Software Test Engineer** | Dec 2015 – Sep 2017 |
| Research and Development, Nokia |  |
| * Maintained, developed and tested features for Nokia’s base stations. Used C/C++ and Java. | |
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| **Software Developer** | Nov 2014 – Nov 2015 |
| Smart Communications, Innerworks International |  |
| * Developed backend applications for local mobile carriers, used primarily C++ and Java. | |
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| **Science Research Specialist** | May 2014 – Dec 2015 |
| Research and Development, Ateneo de Manila |  |
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| **Software Developer** | Jun 2011 – Jun 2013 |
| Research and Development, Canon |  |

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| **TECHNICAL SKILLS** |
| **Programming:** Python (Tensorflow/Keras, Pyspark, Geopandas, GTFS), Google Cloud Services, C/C++, Java, Docker, Redis, Prometheus, Grafana, Pulsar, MQTT, ZeroMQ, Git |

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| **ACHIEVEMENTS/AWARDS** | |
| Japanese Government Scholarship | Sep 2017 |