

MANUEL ANTONIO RUFINO

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Research Experience

December 2024 - PRESENT, Samsung & SEACrowd

South-East Asia Vision-Language Research Initiative (SEA-VL)

- Became one of the core contributors to the South-East Asian Vision-Language (SEA-VL) project from SEACrowd, an open-source South-East Asian AI research community. This project covers a large-scale culturally relevant Vision-Language resource collection for South-East Asian cultures and culturally relevant multimodal models, particularly a Vision-Language Embedding model, a Vision-Language Model (VLM), and an Image Generation model.

November 2024, Samsung

WMT24 Shared Tasks

- Participated in the Low-Resource Languages of Spain Shared Task and the Indic MT Task. Our approach consistently ranked within the top 10 for all three translation directions of the Low-Resource Languages of Spain Shared Task

March 2023 - March 2024, Samsung

Autonomous Large-Scale Mobile Game Analytics System

- Industry-centric research on a large-scale data analysis pipeline. In particular, I developed an autonomous pipeline for root cause analysis on over 18GB of data weekly on the performance of over three hundred mobile games on flagship phones.

July 2018 - PRESENT, Samsung

Various other R&D Activities

- Became head of the Computer Vision and Robotics Special Interest Group within Samsung R&D Institute Philippines (SRPH) in 2024. This group spearheads CV and robotics-related research and innovation within the Network R&D Team.
- Did research on different ways to integrate the latest advances in AI into Samsung products. This has resulted in two pending patent applications and various internal project proposals.

Education

August 2014 - June 2018

University of the Philippines Los Baños (UPLB), Los Baños, Laguna, Philippines
Bachelor of Science in Computer Science, Cum Laude

- Competed in various programming contests as a representative of UPLB.
- Taught math and IT subjects to students with academic difficulties as a Peer Tutor under the Office of Student Affairs (now Office of the Vice Chancellor for Student Affairs).

Work Experience

July 2018 - PRESENT

Samsung R&D Institute Philippines (SRPH), Taguig City, Philippines

Engineer

- Currently involved in a project utilizing natural language processing and deep learning for a customer service chatbot that handles over 9000 sessions daily across five countries. Has resolved critical bugs that affected users across five countries.
- Worked on a project where I had to develop pipelines for automated data analysis requiring skills in statistics, data engineering, and research. In particular, I developed an automated pipeline for root cause analysis on over 18GB of data weekly on the performance of over three hundred mobile games on flagship phones.
- Has worked on various projects as a backend web developer spanning several frameworks and technologies
- Taught and mentored students at UP Rural High School as part of SPARK11 2024 and 2025, a program where Samsung engineers taught algorithms concepts to senior high school students.
- Served as problem setter/judge for Samsung AlgoChallenge 2019 and for various internal contests.
- Taught an algorithms course for software engineers within the company which was well-rated by students.

June 2017 - July 2017

Freelancer.com Philippines Inc., Taguig City, Philippines

Software Engineering Intern

- Worked on various features, bug fixes, and A/B Tests for the main website of freelancer.com.

Publications

March 2025

Crowdsource, Crawl, or Generate? Creating SEA-VL, a Multicultural Vision-Language Dataset for Southeast Asia

Samuel Cahyawijaya, Holy Lovenia, Joel Ruben Antony Moniz, ..., Manuel Antonio Rufino, et al.

<https://arxiv.org/abs/2503.07920>

Accepted for publication at ACL 2025

November 2024

Samsung R&D Institute Philippines @ WMT 2024 Low-resource Languages of Spain Shared Task

Dan John Velasco*, Manuel Antonio Rufino*, Jan Christian Blaise Cruz

** equal contribution*

<https://aclanthology.org/2024.wmt-1.86/>

Proceedings of the Ninth Conference on Machine Translation

November 2024

Samsung R&D Institute Philippines @ WMT 2024 Indic MT Task

Matthew Theodore Roque, Carlos Rafael Catalan, Dan John Velasco, Manuel Antonio Rufino, Jan Christian Blaise Cruz

<https://aclanthology.org/2024.wmt-1.62/>

Proceedings of the Ninth Conference on Machine Translation

Patents

WO2024128677A1

Method and apparatus processing visual media

Juan Raphael S. Seña, Amielle B. Dulay, Manuel Antonio P. Rufino, Luis Miguel Flores

Patent Application

PH1/2022/00050589

System and Method for Conversion and Interoperability of Non-fungible Tokens

Juan Raphael S. Seña, Luis Miguel Flores, Manuel Antonio P. Rufino,

Patent Application

Awards and Honors

June 2018

Samsung Research Excellence Award

Samsung R&D Institute Philippines

June 2018

Member of the Honor Society of Phi Kappa Phi

Honor Society of Phi Kappa Phi Chapter 045, University of the Philippines

February 2018

1st Runner-up, Hackzilla in Manila III

Freelancer.com Philippines Inc.

Theme: Pioneering the Future of Work for Filipinos

My teammates and I created an app that allows event coordinators/planners to assemble event staff from Freelancer.com's pool of freelancers using their API.

February 2018

3rd Place, Algolympics 2018

Association for Computing Machinery - UP Diliman Student Chapter

February 2018

3rd Highest General Weighted Average among B.S. Computer Science Seniors

Institute of Computer Science, UPLB.

October 2017

3rd Place, ACM-ICPC Philippine National Programming Contest 2017

ACM-ICPC Philippines

April 2017

1st Runner-up, Hackzilla in Manila II

Freelancer.com Philippines Inc.

Theme: Explore Possibilities with Artificial Intelligence

My teammates and I created a chatbot using API.ai (now called DialogFlow) that serves as an all-in-one food ordering solution that uses the K-Nearest Neighbors algorithm to recommend food to users based on the choices of other users with similar tastes.

February 2017

3rd Highest General Weighted Average among B.S. Computer Science Juniors

Institute of Computer Science, UPLB.

October 2016

Champion, 2016 ACM-ICPC Southern Luzon Invitational Programming Contest

ACM-ICPC

2014-2018

RA 7687 Scholarship

Department of Science and Technology, Philippines