

# Elvin Mark Munoz Vega

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## About Me

I'm a passionate software developer with a strong interest on AI and machine learning. I've been working in the field for about 3 years and have a solid foundation in Go, Python and Java using multiple frameworks such as FastAPI, Flask and SpringBoot to build restful APIs for Backend applications.

My expertise lies in natural language processing and computer vision. I'm driven by a desire to create innovative solutions that make a positive impact.

## Education

<b>BS</b>	<b>National University of Engineering   Lima, Peru</b> , Engineering Physics	March 2011 – April 2016
	<b>Osaka University - Center for Japanese Language and Culture   Osaka, Japan</b> , Japanese Language	April 2017 – March 2018
<b>BS</b>	<b>Tokyo Institute of Technology   Tokyo, Japan</b> , Computer Science	April 2018 – March 2022

## Experience

<b>UTEC (Universidad de Ingeniería y Tecnología)</b> , Researcher	Lima, Peru
<ul style="list-style-type: none"> <li>Developed software in C++ for controlling an optical setup to manipulate micro-robots by creating and controlling convection flows.</li> <li>Utilized the Artificial Potential method to improve microrobot control and enable obstacle avoidance.</li> </ul>	April 2016 – March 2017
<b>Tokyo Institute of Technology</b> , Researcher	Tokyo, Japan
<ul style="list-style-type: none"> <li>Successfully trained neural networks using SAM optimization and assessed their performance.</li> <li>Studied the impact of hyperparameters on training outcomes.</li> <li>Investigated loss landscapes and parameter trajectories using the Digits dataset.</li> <li>Utilized the Weights and Biases platform for tracking training progress.</li> <li>Leveraged GPU clusters provided by the university lab for efficient training.</li> </ul>	April 2021 – March 2022
<b>Rakuten Mobile</b> , Software Developer	Tokyo, Japan
<ul style="list-style-type: none"> <li>Developed and tested scalable microservices in Go, integrating with NoSQL and relational databases, with robust CI/CD pipelines and containerized deployments using Docker.</li> <li>Designed and implemented API backends leveraging modern backend frameworks, integrating with cloud services for authentication, email, storage, and database management.</li> <li>Analyzed and enhanced third-party software by documenting and modifying open-source components, ensuring alignment with project requirements.</li> <li>Built and optimized high-performance communication modules for internal systems, focusing on concurrency, scalability, and system reliability</li> </ul>	April 2022 – Present

## Publications

<b>Exploiting the transient behavior of thermocapillary convection flows to enhance non-contact mesoscale manipulation</b>	2016
Quispe, Johan and Muñoz, Elvin and Vela, Emir	

[10.1063/1.4963159](#) 

**Optimizing the speed of single infrared-laser-induced thermocapillary flows micromanipulation by using design of experiments**

2017

Muñoz, Elvin and Quispe, Johan and Lambert, Pierre and Bolopion, Aude Terrazas, Ronald and Régnier, Stéphane and Vela, Emir

[10.1007/s12213-017-0097-3](#) 

**Single particle manipulation/sorting through the transient response of thermocapillary convection flows**

2016

J. E. Quispe and J. C. Inga and E. M. Muñoz and S. Régnier and E. Vela

[10.1109/MARSS.2016.7561730](#) 

**Closed-loop selective manipulation of multiple microparticles by controlling the transient regime of Marangoni flows**

2016

E. M. Muñoz and J. E. Quispe and E. Vela

[10.1109/IROS.2016.7759754](#) 

**Laser-induced thermocapillary flow manipulation of microparticles with obstacle avoidance in a non-patterned fluidic environment**

2017

E. M. Muñoz and J. E. Quispe and S. Régnier and E. Vela

[10.1109/MARSS.2017.8001939](#) 

**Hand rehabilitation using Soft-Robotics**

2016

A. A. Reymundo and E. M. Muñoz and M. Navarro and E. Vela and H. I. Krebs

[10.1109/BIOROB.2016.7523708](#) 

## Projects

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**PyTorch Simple Trainer**

- Developed a tool that will allow you to train any computer vision model against custom datasets.

[github.com/elvin-mark/pytorch\\_trainer](https://github.com/elvin-mark/pytorch_trainer) 


**JADE**

- Built a simple framework to build and train neural networks in Java. This framework was written from scratch so no extra dependencies are needed.

[github.com/elvin-mark/jade](https://github.com/elvin-mark/jade) 


**Learning Korean App**

- Built a simple web application in Angular that helps beginners learn the Korean language through flashcards and short quizzes.

[github.com/elvin-mark/korean-learning-app](https://github.com/elvin-mark/korean-learning-app) 

**Movie Recommender**

- Built a simple movie recommender that leverages a lightweight text embedding deep learning model to search for similar movies from a clustered movie list.

[github.com/elvin-mark/movie-recommender](https://github.com/elvin-mark/movie-recommender) 

## Technologies

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**Languages:** Python, C, Java, Go, SQL, JavaScript

**Technologies:** Git, Jenkins, Docker, K8s, AWS