



# ZACHARY BRENT L. MAYUGA

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## SUMMARY

A Computer Engineering graduate from De La Salle University with a keen interest in pursuing a career as an AI engineer or/and software developer. Demonstrates a strong foundation in engineering principles, a versatile skill set, and the adaptability to excel in dynamic work environments. Known for a positive and proactive attitude, combined with a commitment to continuous learning and innovation in the field of artificial intelligence and software development.

## WORK EXPERIENCE

- Events Officer, Association For Computer Engineers**

Sep 2023 - Dec 2024

  - Served as Events Officer in the organization, leading the coordination of academic talks in computer engineering.
  - Collaborated with speakers and stakeholders to ensure the success of technical and academic discussions.
  - Contributed to the professional development of members through relevant academic initiatives.
- Intern|Software Developer, Essilor Luxottica**

May 2024 - Sep 2024

  - Completed an internship at Essilor Luxottica as a software developer, focusing on building user-friendly applications.
  - Gained hands-on experience in React, contributing to the development of interactive and efficient software solutions
  - Collaborated with a team to implement responsive design and improve application performance.

## EDUCATION

- Bachelor's Degree in Computer Engineering**

Feb 2025

De La Salle University Manila

  - Cum Laude
  - Consistent Dean's Lister
  - Thesis on "Development of an Automated Scoring System in Ball Sports using CNN from a Virtual Simulation"
  - Attended the 5th AI Expo Autumn Tokyo in Makuhari Messe, Japan
- Stem Qualifier**

May 2020

Las Pinas City National Science Highschool

  - Finished with High Honors
  - President of the Science Club
  - Exemplary Award in Robotics and Programming

## TECHNICAL SKILLS

- Computer Vlsion**
  - Image processing
  - Frameworks: OpenCV, TensorFlow, PyTorch, Keras
  - Tools: YOLO
- Natural Language Processing (NLP)**
  - Frameworks: TensorFlow, PyTorch
  - Tools: OpenAI GPT models, IBM Watson Language Translator
- Generative AI**
  - Models: GANs (Generative Adversarial Networks), VAEs (Variational Autoencoders).
  - Tools: DALL·E

## TECHNICAL SKILLS

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### Machine Learning

- Data Prediction
- Data Analyzation
- Data Annotation
- Model Training
- Model Optimization

### Web Development (Front end)

- ReactJS
- Typescript

## PROJECTS

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### Bot Deveolpment (Discord)

- Integration of diverse programming solutions through the utilization of APIs
- Incorporating advanced personalized AI into the bot to interface with an organization's database.

### Development of an Automated Scoring System in Basketball using Convolutional Neural Network (CNN) from a Virtual Simulation (Thesis Study)

- Successfully developed an automated scoring system capable of detecting and tracking basketball scoring events in a virtual simulation environment.
- The system showcases real-time performance with high accuracy, enhancing the reliability of basketball simulations.

### Zombie vs Knights

- Developed a simple turn-based video game using Java's Scenebuilder showing a great understanding of Object-Oriented Programming and Data Structures.

## PROGRAMMING LANGUAGE

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- Python
- Matlab
- Java
- C and C++
- Javascript, HTML, CSS, and ReactJS
- HDLs (Verilog and VHDL)