

# FILBERT SEMBIRING MELIALA

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Motivated Informatics student specializing in Artificial Intelligence, with proven leadership as Vice Chairperson of PUMA Informatics, guiding teams to deliver impactful tech initiatives. Excelled in AI-driven projects and hackathons, showcasing strong problem-solving and collaboration skills. Passionate about driving innovation in the tech industry through continuous learning and strategic vision.

## TECHNICAL SKILLS

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**Programming Languages:** Python, JavaScript, PHP, SQL

**Artificial Intelligence:** Machine Learning, Deep Learning (CNN, RNN, Transformer), Natural Language Processing (NLP), Computer Vision

**AI & ML Frameworks:** TensorFlow, PyTorch, Hugging Face, OpenCV, NLTK, Scikit-learn

**Frontend:** React.js, Next.js, HTML, CSS, Tailwind CSS, Vite

**Backend:** Node.js, Express.js, Laravel, FastAPI

**Databases:** MongoDB, SQL

**Developer Tools:** Git, GitHub, VS Code, Jupyter Notebook, Google Colab, Android Studio, Notion, Trello, Microsoft Excel, Google Sheets, Google Calendar

## PROJECTS

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### YouTube Coding Guide - Full-Stack Web Application

*Fullstack Web Developer*

July 2025

- Built and developed a full-stack coding guide platform using React, TypeScript, Tailwind CSS, and shadcn-ui, featuring a responsive, card-based UI with mobile-first design principles.
- Engineered a scalable RESTful API using Node.js and Express.js, implementing complete CRUD functionality, structured routing, and modular controller logic.

### Sentiment Analysis Tool for Social Media AICO

*Fullstack Developer & AI Engineer*

March 2025

- Developed a full-stack sentiment analysis web app using React, TypeScript, and Vite for the frontend, and FastAPI with Python for the backend, enabling real-time analysis of TikTok and Instagram content.
- Implemented Scikit-learn for machine learning-based sentiment classification, processing and labeling over 100+ social media posts with high accuracy.
- Optimized API response time by 20% by streamlining backend routing, asynchronous request handling, and efficient data processing.

### MedBot: Intelligent Medical QA System

*Machine Learning Engineer*

February 2025

- Fine-tuned and compared advanced NLP transformer models, BioBERT and RoBERTa, on the BioASQ biomedical question-answering dataset using transfer learning techniques.
- Conducted model training and evaluation over 15 epochs, comparing BART and RNN architectures based on precision, recall, and F1-score.
- Achieved an F1-score of 81.55% with the fine-tuned BioBERT, demonstrating effective domain adaptation for biomedical QA tasks.

### Child Emotional Detection System Computer Vision

*AI Engineer & Data Scientist*

January 2025

- Built an AI-powered emotion detection system using Python and Convolutional Neural Networks (CNNs) to classify children's facial expressions for early-stage mental health screening.
- Applied advanced computer vision techniques with OpenCV, achieving 85% classification accuracy across multiple emotion categories on image datasets.
- Delivered technical presentation on model performance, emphasizing its real-world applicability, data labeling challenges, and future deployment potential in health-tech.

## EXPERIENCE & LEADERSHIP

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### PRESIDENT UNIVERSITY MAJOR ASSOCIATION INFORMATICS (PUMA IT)

#### *Vice Chairperson*

July 2024 - Present

- Led cross-functional team of 59 to coordinate multiple large-scale technical events, managing milestones, logistics, and stakeholder communication for over 500+ participants.
- Oversaw strategic project planning and resource allocation, improving community engagement metrics and volunteer participation.
- Increased event engagement by 30% by optimizing planning workflows and improving internal communication between divisions.

#### *Vice Project Manager - Technology Exploration 2024*

November 2023 - October 2024

- Coordinated project tasks and schedules across an 80-person team, delivering TechX event with seminars and competitions on time and within scope for 200+ participants.
- Tracked project timeline and deliverables using planning tools, boosting workflow efficiency by 15% and growing outreach to 2,000+ viewers.

#### *Vice of Division Research and Technology*

October 2023 - October 2024

- Managed logistics and stakeholder coordination for the university's largest informatics event with 200+ attendees.
- Collaborated with technical teams to deliver a project website on deadline, improving user engagement through better UI structure.

### SETSAIL BIZACCEL

#### *PIC Mentor of Web Development*

October 2024 - May 2025

- Supervised site operations and guided team task prioritization and troubleshooting, ensuring project timeline adherence and performance targets.

### AICO COMMUNITY

#### *Mentor of Workshop Pand.AI*

March 2025

- Guided 200+ high school students to create AI-generated videos and images using Hailuo AI and Leonardo AI.
- Improved participant proficiency by 50% through practical exercises.

### SOCIAL PROJECT

#### *Project Manager - The "Sekolah Kami"*

June 2024 – July 2024

- Led end-to-end execution of social initiative with a 15-person team, managing timeline, resource distribution, and stakeholder engagement.
- Directed all phases of project execution—initiation, planning, execution, and closing—ensuring delivery aligned with project objectives.
- Prepared structured documentation and reporting frameworks (tracking sheets, impact logs), enhancing visibility into project outcomes.

## EDUCATION

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### President University

September 2023 – December 2026 (Expected)

*Bachelor of Informatics; GPA: 3.97/4.0*

Concentration: Artificial Intelligence

### Korea-ASEAN Digital Academy

June 2025 – Present

Relevant Coursework: Ethics and Security, Web Development, Backend, Cloud Service, Data Analysis, DevOps, UI/UX

## AWARDS & COMPETITIONS

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- 1st Place Winner, Golden Code: Hackathon, President University (2025)
- 3rd Place Winner, Founders Weekend Setsail, President University Setsail BizAccel (2024)
- 3rd Place Winner, International Hackathon - BeachHacks, Chung Ang University (2024)