# Muhammad Naufal Pratama

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Passionate Software Engineer specializing in Backend Development and Game Development, with a strong interest in Graphics Programming and Low-level Systems. Exploring my future in building scalable, high-performance systems and immersive game engines. Dedicated to crafting efficient, elegant solutions for complex technical challenges.

## EXPERIENCES

### C++ Software Engineer — AccelByte
*Internship & Fulltime*  —  September 2023 - Now

- Starting my position at AccelByte as a C++ Software Engineer Intern for 3 months. Mainly working on implementing REST API requests & responses for the SDK. Learn in-depth about Websocket and how to implement it using C++ as a chat feature. Acquire invaluable experience by creating a Network Utility for the SDK. Finishing my internship period by being introduced to a Codegen concept in software engineering.

- My full-time position focused on improving Codegen software and internal testing framework. Codegen improvements that I made were handling a renaming mechanism between OpenAPI spec names and our new desired name. Creating C++ code templates using Jinja to minimize the team & clients' burden when using SDK.

- My recent responsibility is managing a C++ plugin for the Unity project. The plugin I work on is in part of a crash video in Unity using DirectX11 and a pipe process. I also developed a new engine-agnostic plugin that consists of stack traces and minidump creation using Windows API.

- Tech: C++, Python, C#, Jinja, CMake, Conan, Unity, Visual Studio & GoogleTest

### Gameplay Engineer — Plasma
*Volunteer*  —  July 2024 - November 2024

- Gain a meaningful experience by working as a Gameplay Programmer. The main focus is developing Interactive Systems and Virtual Cameras through our custom game engine.

- Tech: C++

### C++ Software Engineer Intern — Nodeflux
*Internship*  —  August 2022 - December 2022

- Starting an internship by creating a REST API that does image classification using C++. Develop two surveillance camera analytic products (PPE Detector & Person Re-identification) using Python and Docker and take responsibility for developing the SDK and web UI. My final project was developing a more advanced image classification by practicing ZeroMQ, the forking process, and Dynamic Loaded Library (DLL).

- Tech: C++, CMake, ZeroMQ, Python, OpenCV, ONNX, Vegeta, Prometheus, & Docker

### DevOps/SRE Intern — Fita
*Internship*  —  June 2022 - August 2022

- Having an internship as a DevOps/SRE intern at Fita and contributing to the GCP Cloud Armor setup and the Helm configuration, created a Terraform dependencies auto-updater pipeline using Renovate to minimize the need for changing the dependencies version manually. As a final task, I set up a VictoriaMetrics alerting system to help developers warn when there is a problem.

- Tech: GitLab CI/CD, GCP, Kubernetes, and Helm, Terraform, Grafana, & VictoriaMetrics

### Fullstack Engineer Intern — UPT Perpustakaan UNDIP
*Internship*  —  Feb 2022 - June 2022

- Worked eagerly as a full-stack engineer to develop an automated mail template platform helping library staff write a formal letter without manually writing it through a word editor, but instead can write on it directly from the web and share the result.

- Tech: HTML, CSS, Bootstrap, PHP, Laravel, Redis, RabbitMQ, Git & Heroku

**Software Defect Prediction Research** | Universitas Diponegoro
*University Research* | March 2021 - October 2021

- Research and explore in-depth defects in software using machine learning and deep learning algorithms such as CNN, LSTM, and Random Forest from experiments until the paper publications on AIP. We found that a simple Random Forest algorithm can handle this problem effectively.
- Tech: Python, Tensorflow, NumPy, Git, Machine learning & Deep learning

**Backend Engineer Mulo** | Mulo
*Backend Engineer Project* | Feb 2021 - Aug 2022

- Contribute to both developing from scratch the backend API, using SailsJS and also the android app, using Kotlin for Mulo while also handling the documentation and software artifact. Mulo is a startup company that uses blockchain technology to empower UMKM in Indonesia by providing an application to help manage UMKM activities and finances.
- Tech: NodeJS, SailsJS, Kotlin, PostgreSQL, Insomnia, Git & Heroku

**Backend Engineer Intern** | Azura Labs
*Internship* | Jan 2021 - Mar 2021

- Develop backend REST API using Laravel for a web-based project called 'Butiko', which contains articles and activities carried out by the 'Butiko' community.
- Tech: PHP, Laravel, MySql, Insomnia & Git

EDUCATION

**Universitas Diponegoro** | Semarang, Central Java
**Bachelor of Computer Science** *GPA: 3.87 out of 4.00* | 2019 - August 2023
**Thesis**: *The Effects of Extract Function Refactoring on High Cyclomatic Complexity Code Smell and Maintainability Index*

PROJECTS

**Game Engine** *C++* | SDL3GPU
C++ Game Engine from scratch by utilizing SDL3, GLM, FMOD, and The Forge.

**PPE Detection** *Python, Tensorflow, Streamlit, Docker* | Showcase
The Personal Protective Equipment (PPE) detection runs on the Web platform, and the purpose of this software is to detect whether there are workers who do not use safety equipment such as helmets and vests. The detection is done using deep learning models. My role in this project is as a Software Engineer who manages the software architecture and codebase.

**Anforom 2021** *Laravel, JavaScript, Git, CPanel* | Anforcom
Took charge as a backend programmer in creating, developing, and maintaining Anforcom's website, which is a competition and seminar that is held annually by the HMIF Undip.

**Pink Ponk** *Godot* | GitHub
A ping-pong clone made using Godot 3.

**Goblock** *Raylib* | GitHub
Blocks destroyer game made using Raylib 4.

SKILLS

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| Hard Skills: | C, C++, C#, Conan, CMake, Python, JavaScript, Laravel, SQL, Kafka, Postman, Heroku, Redis, RabbitMQ, Docker, Kubernetes, Helm, Terraform, CI/CD, Grafana, Streamlit, Prometheus, CMake, Vegeta, GDB, VictoriaMetrics, GCP, Raylib, Godot, Unreal Engine, Unity. |
| Soft Skills: | Analytical & critical thinking, supportiveness, patience, and time management. |