Maulana Ariefai

Final Master Student in biopharmaceutical material science who are also an IT enthusiast. I am now taking Molecular and Modelling Simulation Track in my master's course. Programming skills are obtained through classes, self-study and doing data analysis in my past project.

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Personal Website:
https://maulana603.github.io/

Portfolio:
https://github.com/maulana603/portfolio

Skill

- Python (BioPython, Pyplot, and Panda)
- Perl (Bioperl)
- R
- HTML5, CSS3, and Javascript
- Molecular modelling and simulation
- Biophysics measurement (Fluorescence Anisotropy Titration, UV-VIS, FTIR, and SEM)

Languages

Indonesian – Native
English – C1
Japanese – B2

Education

2017-2021

Bachelor of Science: Chemistry – Tohoku University, Japan
Fully funded from Japanese government scholarship MEXT

2021-present

Molecular Modelling and Simulation Track at BIOPHAM Master
I am in Molecular Modelling and Simulation Tracks of Biopharmaceutical Material Science (BIOPHAM) EMJMD master. My master is fully funded joint master's degree by Europe Union with University of Lille as coordinator.

Experience

June,2020 – August,2021

Laboratory Member
Takahashi Lab (Biological and Molecular Dynamics), Institute of Multidisciplinary Research for Advanced Materials (IMRAM)

- Made Perl and Python programs to predict the synthetic peptides targeting proteins based on Molecular Dynamics simulation
- Created rational design of peptides for regulating liquid-liquid phase separation
- Performed protein expression and purification, gel electrophoresis, fluorescence anisotropy titration, and absorption spectroscopy.

May,2022 – June,2022

Research Intern
IMEM-BRT Group, Dept. of Chemical Engineering, Escola d'Enginyeria de Barcelona

- Synthesized conductive polymer (PEDOT) with carbon quantum dots as a doping
- Analyzed the performance of doped materials through electrochemistry measurement
- Analyzed surface topography of the material using SEM, UV-VIS and AFM

Certifications

- TOEFL – 109/120
- Japanese Language Proficiency Test – N2
- Google Data Analytics Professional Certificate from Coursera

Awards

- Monbukagakusho (MEXT) Scholarship Awardee, Japan's Ministry of Education, Culture, Sports, Science and Technology (2017-2021)
- Gold medal, best presentation team, and 3rd place overall combined score in BIOMOD International 2019 (26th-27th October 2019)
  BIOMOD is the biomolecular design competition for undergraduate students around the world. It was held at University of California, San Francisco.

Publications

- Kamagata, K., Ariefai, M., Takahashi, H. *et al.* Rational peptide design for regulating liquid–liquid phase separation on the basis of residue–residue contact energy. *Sci Rep* **12**, 13718 (2022). https://doi.org/10.1038/s41598-022-17829-1

Additional Information

Finished Data Science Training with support from Ministry of Communication of Indonesia

The training was done online in Coursera online learning platform. The program is made with collaboration from Google. I learned data cleaning, data visualization, R, and SQL.

Student Group Project for BIOMOD 2019

Murata Lab (Molecular Robotics), Tohoku University

- Successfully modified Hybridization Chain Reaction
- Made a new chain reaction called Reverse Hybridization Chain reaction that can shorten DNA chain
- Worked as a group with various background members

Project's website: https://teamsendai2019biomod.github.io/TeamSendai2019