

# HAEJUNG KOH PORTFOLIO



Maxim Hacker  
MaximHelio

What ships are built for

MaximHelio / README.md

Hi there 🌟

🌱 I'm currently learning Computer Science

📧 How to reach me: maximilhac@gmail.com

🔥 Fun fact: 🍷 hits 14 / 7681



Get your own gitartwork on [jasinen/gitartwork](#)

Stash & Smash

## Main skills

- C++, Java, Javascript, SQL
- Mathematica, Gromacs, Gaussian 05, Origin, TensorFlow
- Spring Boot, Node.js, Nuxt.js, Three.js, Laravel, pro\*C, Adobe flex, FastAPI, Django, Vue.js
- MySQL, Oracle, MongoDB, AWS
- IntelliJ, Eclipse, Visual Studio Code
- Git, SVN

## Repository

<https://github.com/MaximHelio>

## Education

- B.Eng. Computer Engineering
- B.Sc. Chemistry and Nanoscience

## Work Experience

- Samsungcard Digital Service dept. SW Engineer
- Shinhan Global dept. SW Engineer/Expatriate
- Sandslab PLC. Web development dept. SW Engineer

## Certificates

- Structured Query Language Development
- Engineer Information Processing
- Microsoft Office Master 2010

## Interests

- Data analysis
- Recommendation system
- Help others

# Mydata Construction Development of Samsung Card Networking Mobile Application, *Monimo*

<https://www.monimo.com/>

Senior SW engineer Samsung Card

## Skill stack

FE: Javascript-Nuxt.js, Vue.js

BE: Java-Spring Boot 2.x, Oracle

## RNRs

FE/BE

## PJT Outline

- Developed the screens and functions in parts of Consummation, Point money, Pension, and Insurance
- Developed real-time search and batch function for representation of consummation in the calendar
- Integrated Mydata, users' financial transactions and activity data, into the mobile applications
- Depicted the consummation graphs and applied card product recommendation according to the consummation patterns



SKT 3:14 97%

소비분석

지난달 나의 최애 카드예요!

< 11월 >

1 원

계좌 내역을 포함한 금액이에요 ?

지난달 같은 기간보다 230,687원 덜 썼어요.

전월 평균

11.1 11.15 11.30

10월 11월

11월에 이용한 카드·계좌 >



SKT 3:13 97%

<

내 소비

달력

분석

< 11월 >

Q

일	월	화	수	목	금	토
			1	2	3	4
			-69,590	-20,000	-411,690	-549,659
5	6	7	8	9	10	11
-31,950	-27,300	-9,200	-22,100	-42,000	+855만원 -21,000	-29,800
12	13	14	15	16	17	18
-22,900	-67,328	-2,500	-140,930	-18,600	-229,121	-38,600
19	20	21	22	23	24	25
-600,000	-1,700	-391,460	-15,890	-41,700	+109만원 -25,850	-16,899
26	27	28	29	30		
-11,500	-39,300	-56,000				

28일 화요일

합 -6,000원

11:36  
하나카드

합 -50,000원

9:16  
하나카드

SKT 3:17 96%

<

계약내용 확인

보험계약의 상세내용을  
확인해 보세요

유지

전체

유지 무배당 삼성화재 운전자보험 안전운전 파트너 ...

보험료: 10,000원

계약자: 피보험자:

확인해 주세요

- 만기일 및 효력상실일로부터 3년이 지난 계약은 확인할 수 없습니다.
- 보험료 납입 결과 확인까지 3일(영업일 기준) 정도 걸릴 수 있습니다. 만약 미납된 2개월분 보험료를 입금한 경우, 효력상실 상태로 보일 수 있으나 계약은 정상으로 유지됩니다.
- 계약자가 법인인 단체보험은 보험료를 확인할 수 없습니다.
- 신종단체 및 예금자상해 등 단체보험은 해당 계약의 전체 보험기간이 안내됩니다.

# Development of Cyber Security Web Malwares.com

Junior SW Engineer, SandsLab PLC.

## PJT Outline

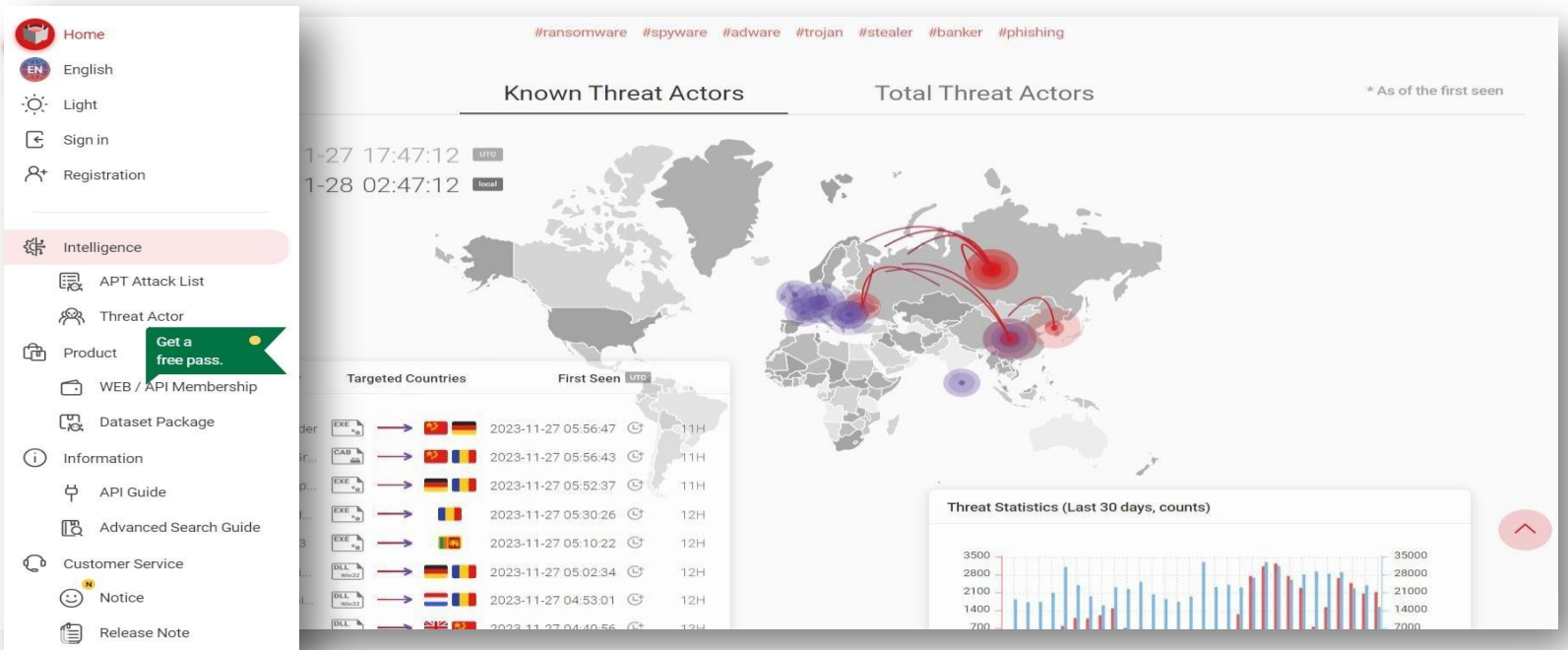
Developed Company solution homepage [malwares.com](https://malwares.com)  
Published the Front-End user interface  
Created an internal API and Private API  
Developed payment system  
Developed multi-modal functions  
Developed a real-time search system  
Developed fragmentation search functions (i.e. author = haejung)

## Skill stack

FE: Javascript-Vue.js  
BE: Java-Spring Boot, MySQL

## RNRs

Front-End





# Development of Commercial Web ㉠

Freelancer

## PJT Outline

- Developed Commercial Webpage *hansolmeat.shop*
- Published all FE/BE/DB part

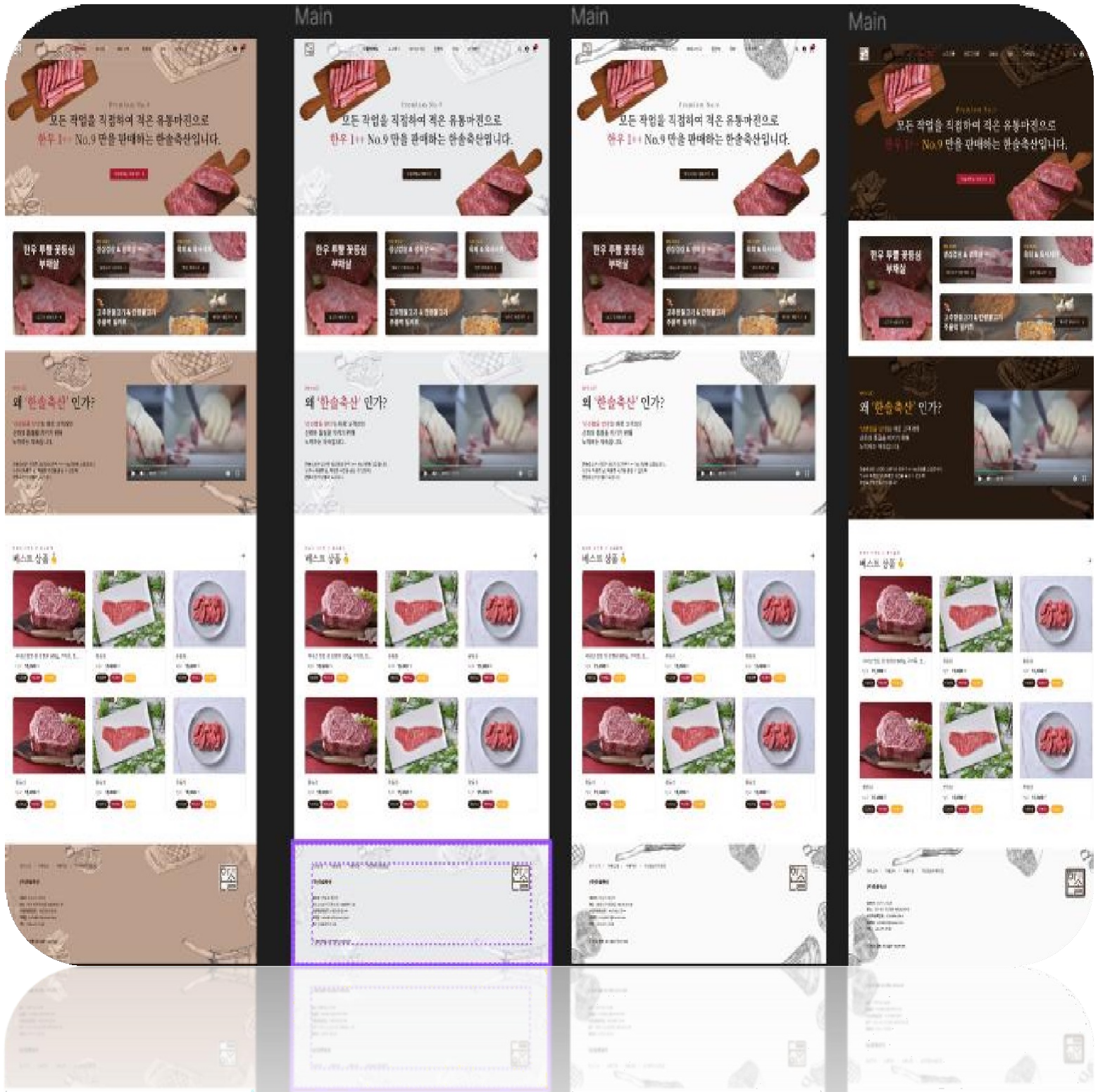
## Skill stack

FE: Next.js

BE: Next.js, MySQL, MariaDB

## RNRs

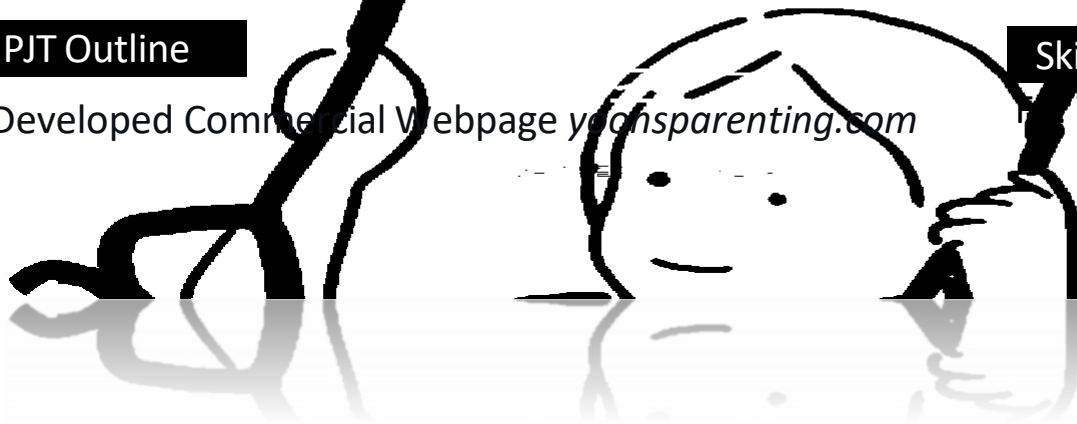
PM, PL



Freelancer

## Skill stack

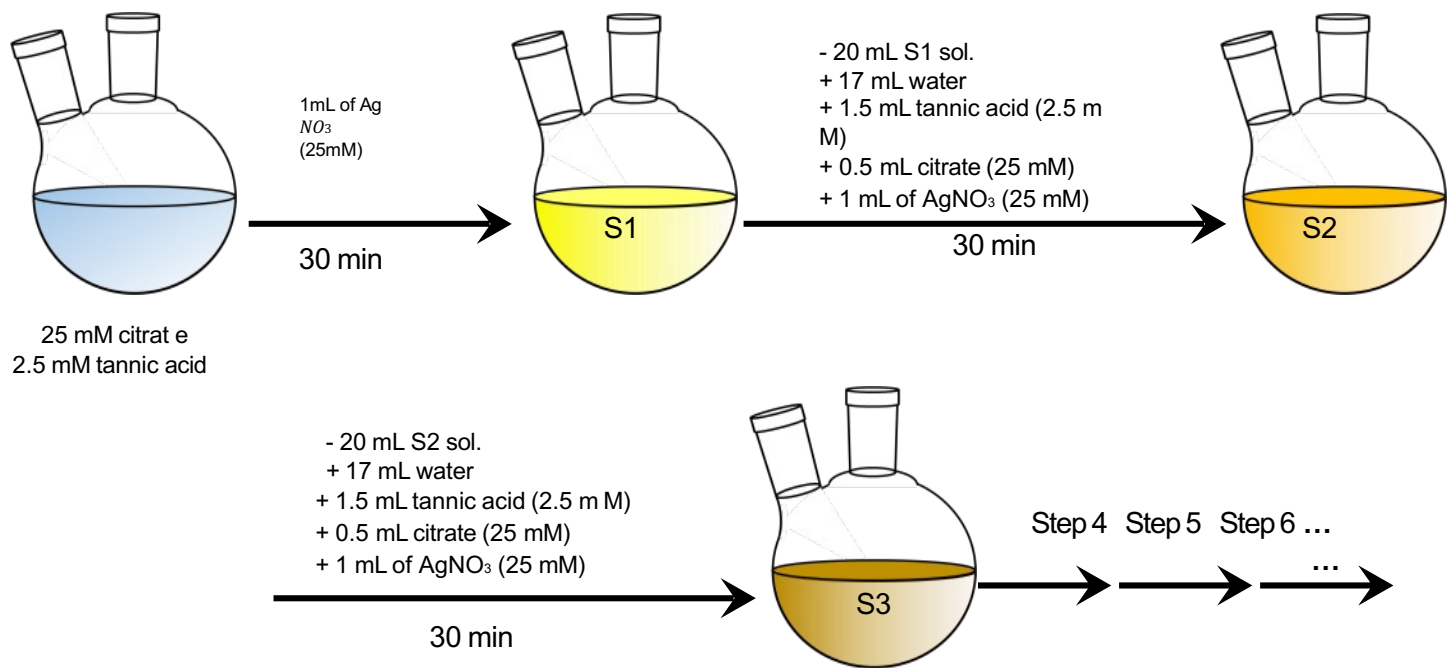
# Y Wordpress



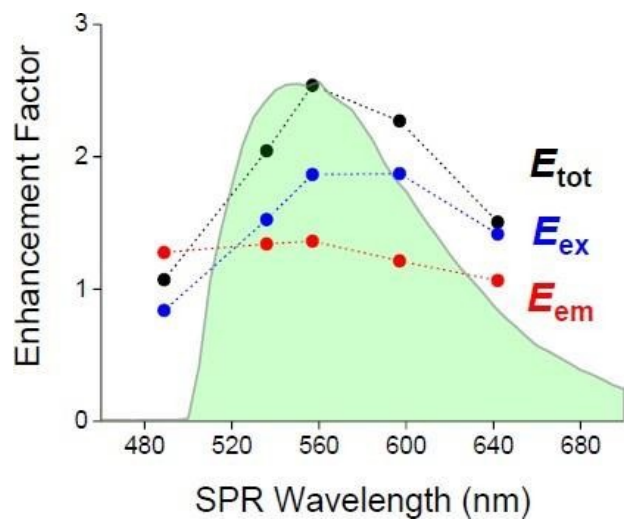
# Metal-Enhanced Fluorescence

Femtosecond Spectroscopy Lab. Advisor: Dr.Yoonsoo Pang  
Gwangju Institute of Science and Technology

Investigated MEF phenomena of DCM & C343 dyes near Ag NPs Analyzed data from TCSPC laser  
Development of femtosecond time-resolved spectrometer system



## Quantum Yields of DCM & C343 probed at 405nm in coated thin PS films with SCFs



$$Q_0 = \frac{\Gamma_0}{\Gamma_0 + k_{nr}} = \tau_0 \Gamma_0$$
$$Q_m = \frac{\Gamma_m}{\Gamma_m + k_{nr,m}} = \tau_m \Gamma_m$$
$$E_{em} = \frac{Q_m}{Q_0}$$

$Q_0$  of DCM in PS  
= 0.47

Semi-empirical model

$$Q_0 = \frac{\Gamma_0}{\Gamma_0 + k_{nr}} = \tau_0 \Gamma_0$$
$$Q_m = \frac{\Gamma_m}{\Gamma_m + k_{nr}} = \tau_m \Gamma_m$$

with SCFs

$$\Gamma_m = \frac{1}{\tau_m} - k_{nr} = \frac{1}{\tau_m} - \frac{(1 - Q_0)}{\tau_0}$$
$$Q_m = 1 - \frac{\tau_m}{\tau_0} (1 - Q_0)$$
$$E_{em} = \frac{Q_m}{Q_0}$$
$$E_{ex} = \frac{E_{tot}}{E_{em}}$$

	Lifetime (ns)	Quantum Yield, $Q_m$	Emission Enhancement Factor, $E_{em}$	Total Enhancement Factor, $E_{tot}$	Excitation Enhancement Factor, $E_{ex}$
DCM Only	1.59	0.47	-	-	-
DCM with SCF1	1.19	0.60	1.28	1.07	0.84
DCM with SCF2	1.11	0.63	1.34	2.04	1.53
DCM with SCF3	1.09	0.64	1.36	2.54	1.87
DCM with SCF4	1.30	0.57	1.21	2.27	1.87
DCM with SCF5	1.50	0.50	1.06	1.51	1.41



# Molecular Dynamics Simulation of PNIPAM

Computational Polymer Physical Chemistry Lab. Advisor: Dr. Jun Soo Kim  
Ewha Womans University

## Skill stack

Python, Fortran, CentOS, Gaussian05

Force field: OPLS-AA

Model: Tip4p/2005 for water

Syndiotactic arrangement of side groups made by Gauss View 5.0 program for PNIPAM

## PJT Outline

- MD Simulation
- Data Analysis using FORTRAN

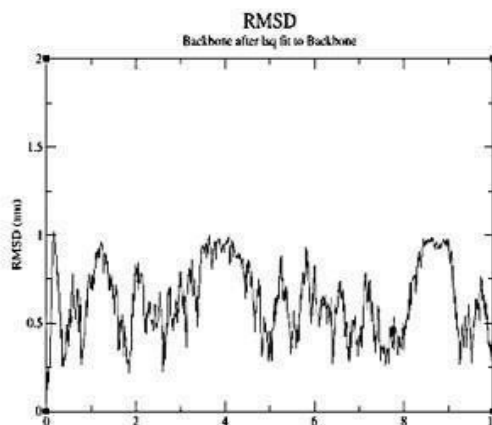
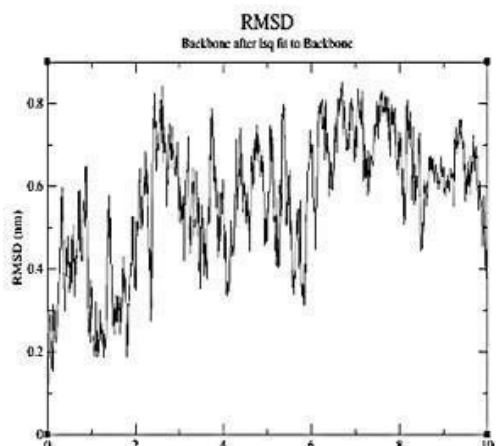
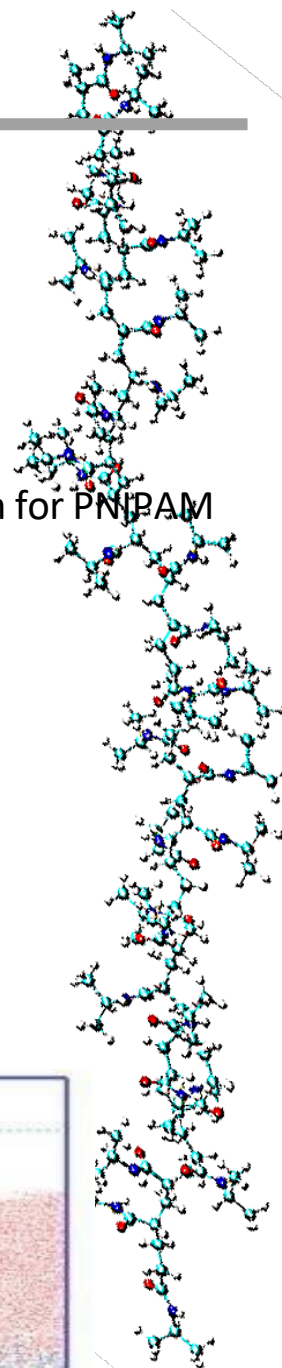
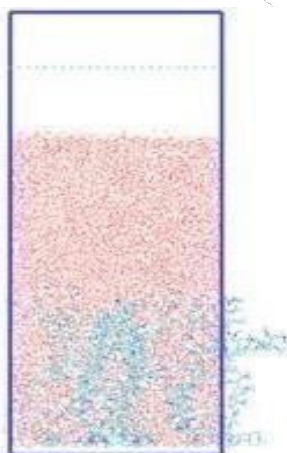
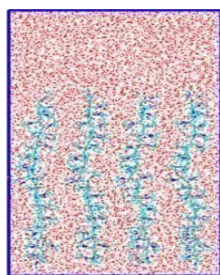
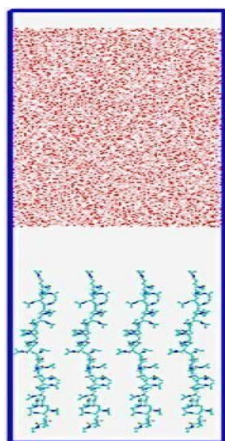


Figure 5. RMSD of water(left) and PNIPAM(right) during the production MD



- Developed PNIPAM NXN multi-chains system and conducted MD simulations
- Analyzed Radius of gyration and intra-chain distances to elucidate collapse-swelling phase transitions
- To advance the research further, development of coarse grained parameters are necessary with reduced degrees of freedom by overcoming time-scale limitations
- Follow-up Study: Interaction of PNIPAM molecules with DNA



# Face-Age Detector

Personal PJT

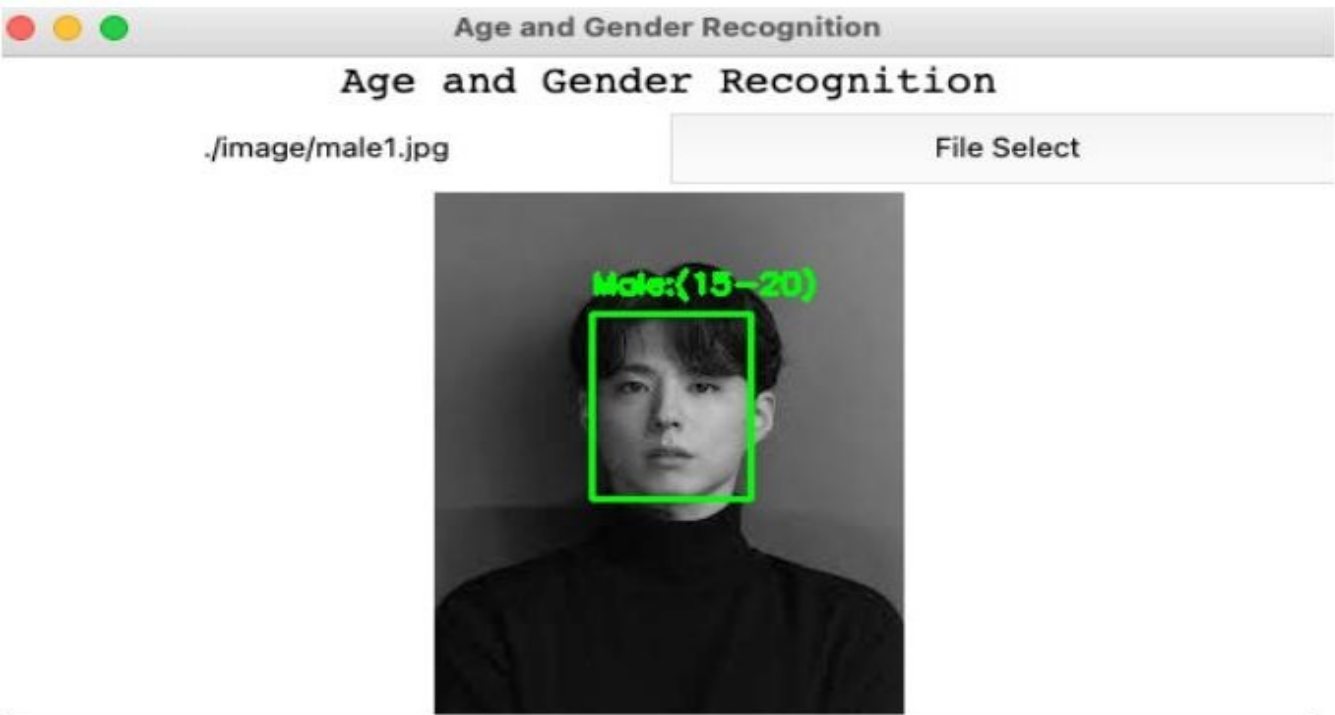
## PJT Outline

- Developed face-age detector program using Caffemodel

## Skill stack

DNN, caffemodel, PIL, Caffe framework

## Gender & Age Detection



Gender: Male 96.59 %

Age: (15-20) 54.71 %

Age	Probability(%)
(0-2)	0.70
(4-6)	21.21
(8-12)	15.29
(15-20)	54.71
(25-32)	3.59
(38-43)	3.47
(48-53)	0.37
(60-100)	0.66
Gender	Probability(%)
Male	96.59
Female	3.41

[ML-for-Chem](https://github.com/MaximHelio/ML-for-Chem)

<https://github.com/MaximHelio/ML-for-Chem>

# BOJ Study Batch Alarm

<https://github.com/MaximHelio/BOJ-cote-batch>

Personal PJT

## Skill stack

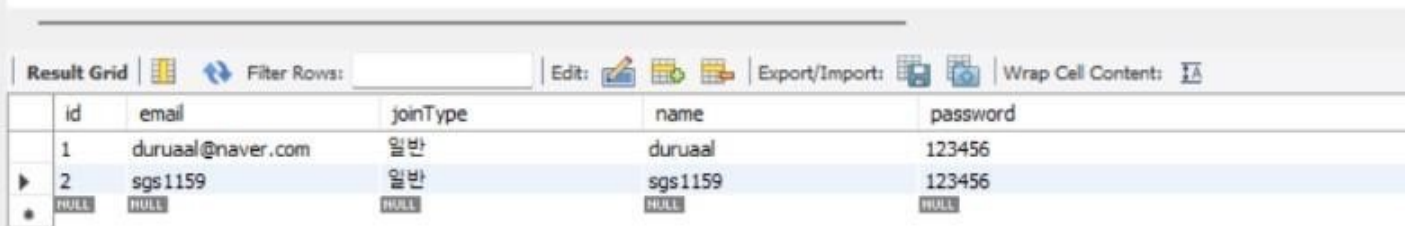
FE: React.js

BE: SpringBoot JPA, Spring Batch

## [PJT](#) Outline

Every day (MON-SUN) at 00:10 Check the number of problems solved by BOJ User

1. Run SBApplication
2. Enter the following into the kknni\_tb\_user table in MySQL client



	id	email	joinType	name	password
1	1	duruaal@naver.com	일반	duruaal	123456
2	2	sgs1159	일반	sgs1159	123456

3. Run at localhost:9040/user/rank > result

## #Algorithm

Participants: Sgs1159,Duruaal

No	Date	Title	Baekjoon
1	2023-02-19	Duruaal	X (1)
2	2023-02-19	Sgs1159	X (0)
3	2023-02-19	Duruaal	X (1)
4	2023-02-19	Sgs1159	X (0)
5	2023-02-19	Duruaal	X (1)
6	2023-02-19	Sgs1159	X (0)

# Blog Automatic Writing Bot

[https://github.com/MaximHelio/btw\\_newedit](https://github.com/MaximHelio/btw_newedit)

Personal PJT

## Skill stack

Node.js

Jade

## PJT Outline

A bot that automatically writes to a blog when run.  
Achieved profits.

ID

Password

Nick

BlogType

☒ Naver

☐ Tistory

구에딿/신에딿

☒ 구에딿

☐ 신에딿

URL

☐ <https://itojisan.xyz/>

☐ <https://www.adte.jp/>

☐ <https://aprico-media.com/>

☐ <https://www.4900.co.jp/>

☐ <https://codezine.jp/>

☐ <https://h-navi.jp/>

☐ <https://doctorsfile.jp/>

☐ <https://www.bbc.com/>

☐ <https://www.ncbi.nlm.nih.gov/>

☐ <https://my.clevelandclinic.org/>

☐ <https://www.medicalnewstoday.com/>

☐ <https://www.arirang.com/>

☐ <https://jablogs.com/>

☐ <https://www.medscape.com/>

☐ <https://www.jspog.com/>

☐ <http://www.gachonherald.com/>

☐ <https://jamanetwork.com/>

Start Bot!

Chrome이 자동화된 테스트 소프트웨어에 의해 제어되고 있습니다.



웹사이트 번역 문서 번역 사전

로그인

영어 감지

"It's really exciting to see our small origami robots doing something with potential important applications to healthcare. For applications inside the body, we need a small, controllable, untethered robot system. It's really difficult to control and place a robot inside the body if the robot is attached to a tether." Daniela Rus While further testing is clearly required, the researchers believe they may well be on the way to a novel treatment for button battery ingestion. "Shuhe" bought a piece of ham, and he put the battery on the ham," notes Rus. "Within half an hour, the battery was fully submerged in the ham. So that made me realize that, yes, this is important. If you have a battery in your body, you really want it out as soon as possible." Read about a robot that researchers say can perform surgery better

한국어

높임말

"우리의 작은 종이 접기 로봇들이 의료에 잠재적으로 중요한 응용 프로그램을 가지고 무언가를 하는 것을 보는 것은 정말 흥분됩니다. 몸 안의 응용 프로그램의 경우, 우리는 작고 통제 가능하며 묶여 있지 않은 로봇 시스템이 필요합니다. 만약 로봇이 테더에 부착되어 있다면 몸 안에 로봇을 넣고 제어하는 것은 정말 어렵습니다." 다니엘라 러스 추가 테스트가 분명히 필요하지만, 연구원들은 버튼 배터리 섭취에 대한 새로운 치료법으로 가는 길일 수 있다고 믿습니다. "슈헤이는 햄 한 조각을 샀고, 그는 햄에 배터리를 얹었습니다. 러스는 말합니다. "30분 안에, 배터리는 햄에 완전히 잠겼습니다. 그래서 저는 이것이 중요하다는 것을 깨달았습니다. 만약 당신의 몸에 배터리가 있다면, 당신은 정말로 가능한 한 빨리 그것을 꺼내기를 원합니다." 연구원들이 말하는 로봇에 대해 읽어보세요. 이 기사를 공유하세요. 콜드 플런지 욕조는 집에서 냉수 치료를 실천할 수 있는 편리한 방법을 제공합니다. 온라인에서 구입할 수 있는 최고의 옵션에 대해 더 알아보세요. 메디컬 뉴스 투데이 회복실은 모든 코로나19 열풍 속에서 당신이 놓칠지라도 모르는 10

## Ad profits



현재 잔액 23,942 원

최근 지급액 58,346 원

## 계정 현황



계정 상태



계좌 번호

## 공지사항

[업데이트] 블로그 미디어 '본문 광고' 내 광...

2023.08.18

2023년 8월 정기수입 지급 일정 안내

2023.08.01

# Rating-based Movie Community Service Web

<https://github.com/MaximHelio/SSAFY-Final-pjt-SGMovies>

Personal PJT

## Skill stack

FE: Vue.js

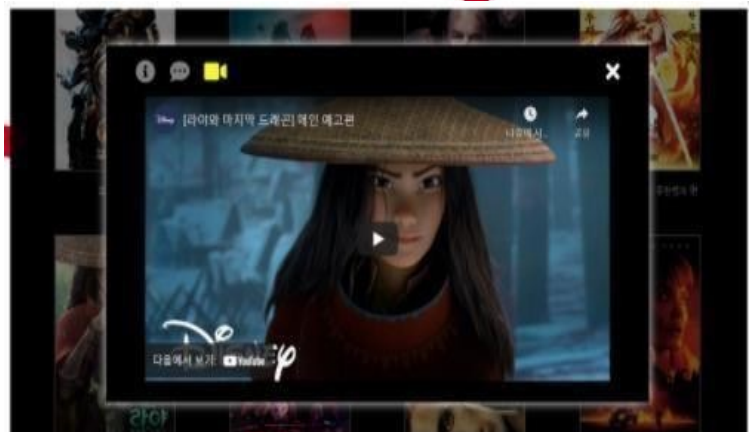
BE: Django

YouTube API, TMDb API, JWT, Sqlite3

## PJT Outline

Developed a movie information bulletin board, including comments and recommendation functions

Implemented Search algorithms for content corresponding to keywords users inserted.



- JWT Login
- Applied YouTube API
- Recommendation system