Data → Pre-processing → Data extraction → KNN / SVM / RF / CNN / LR / Cat boost / DT

SVM

Statistical method + ~~KNN~~

DI

Acc & F1

:

.

DII

Acc & F1

Method
1. proposed method
2. ~~KNN~~ SVM
3. LR

Method
1 proposed method.

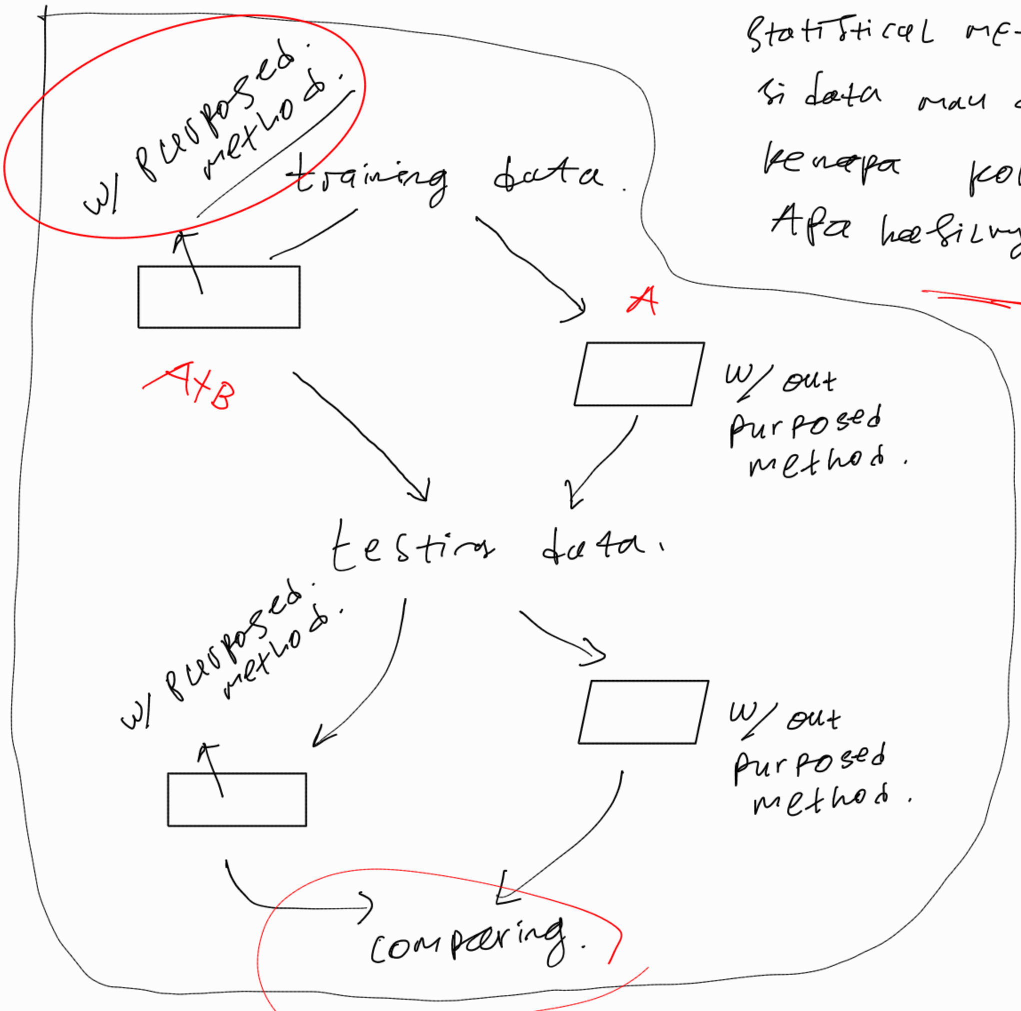
2

3

ekstrasi
- Skewness
- Curtosis.
- entropy.

Statistical method.

Statistical method apa aja?
Si data mau diapain?
kenapa kok data ini digitukan?
Apa hasilnya?



preprocessing

Serangan 1000

Normal

Mungkin

Baru

200

100

untuk memunculkan ciri?.

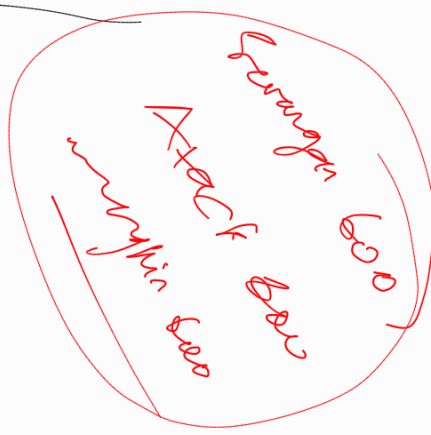
Ciri? data yang termasuk serangan.

Tanya ke pak bagus peluang. security dimana di IoT cuaca.

perjelas apa yang bisa kita buat.

Amankan data yang dilindungi penting.

- Cyber Assault.
- Access to control system
- Information security.



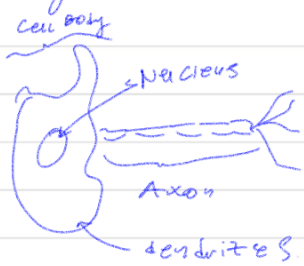
Januari / Februari

September / Oktober tulis CD 1 2 3.

NEURON NETWORK

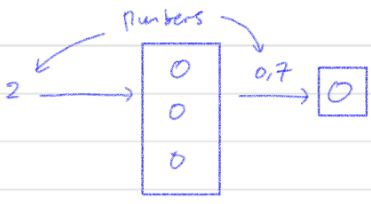
~~Neuron Network~~

Biological Neuron

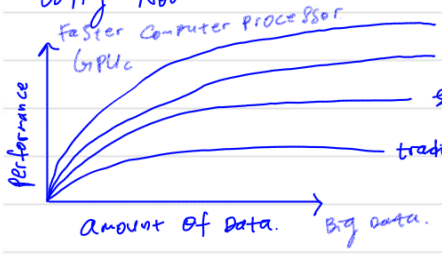


Simplified mathematical model of a neuron

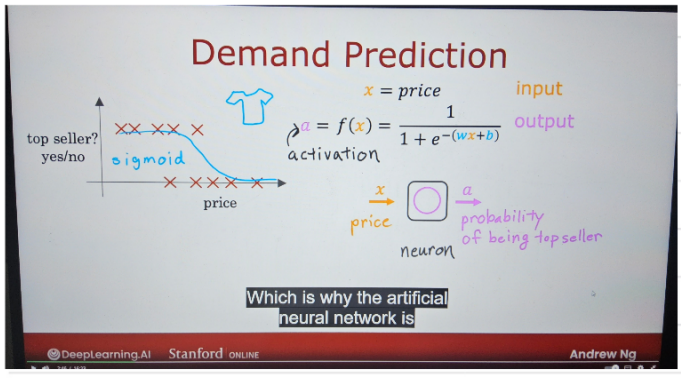
Inputs Outputs

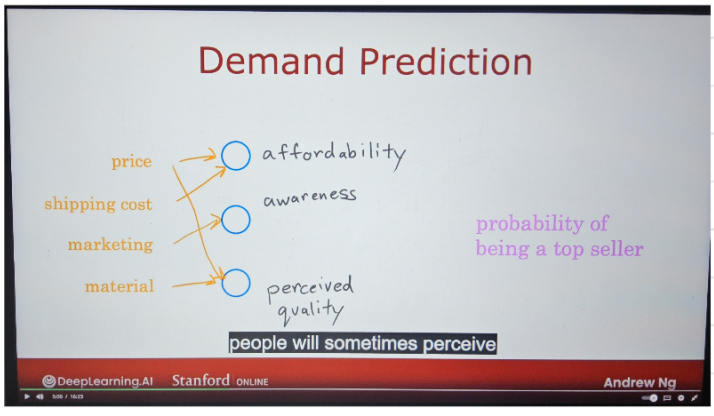


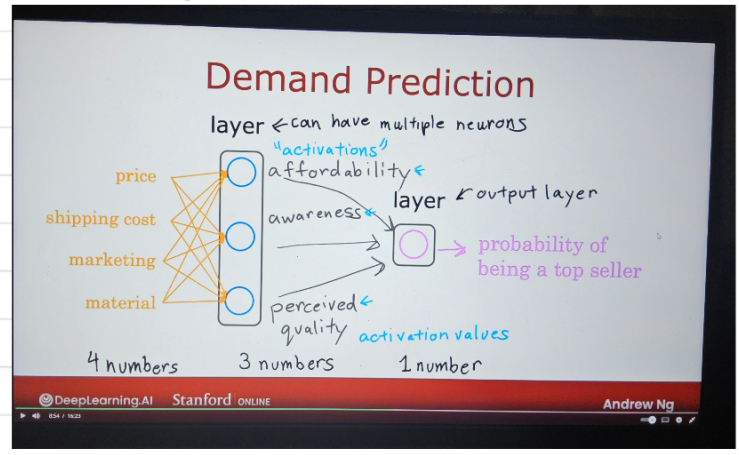
WHY NOW

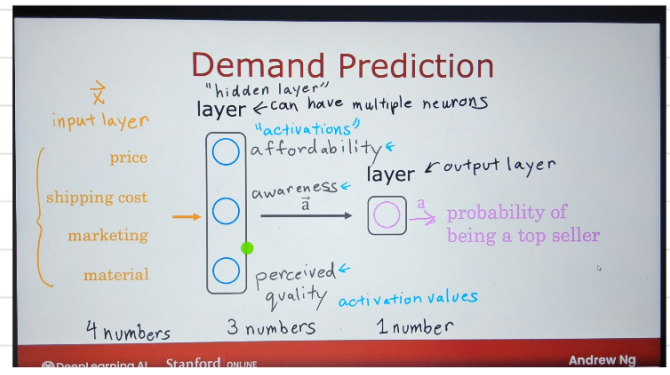


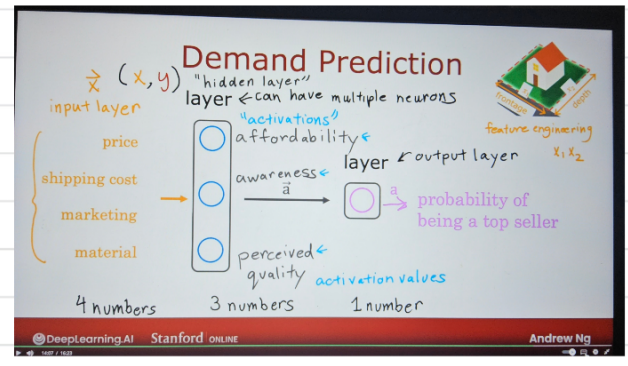
Demand Prediction.



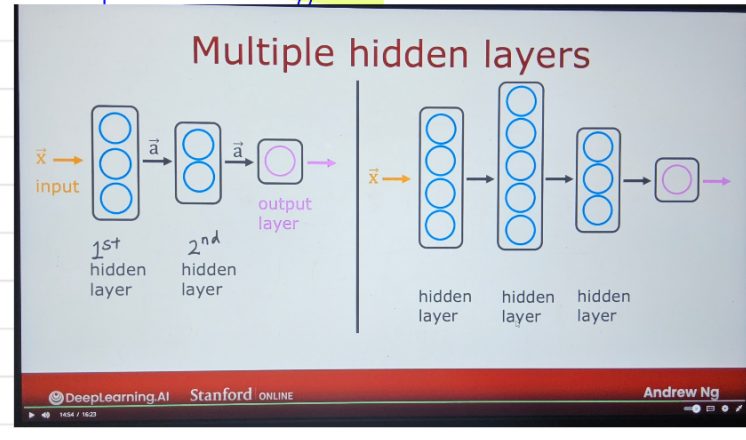








Multiple Hidden Layers



- ☐ How many Hidden layers do you wants & How many neurons do you want each hidden layer to have.

↑

Neural Network architecture

KDD-Cup 99 & NSL-KDD Dataset

Klasifikasi → DOS

tcp

↓

duration

DOS : [.....]

Pod

Satan

| Type Attack |

2

Fitting

↳ proses belajar

Predict

↳ Dikasih soal lalu menjawab.

Analyzing prediction.

↳ Bagus tidak modelnya??

Serangan apa yang ada di NSL-KDD ?

-

entropi → mengukur keacakan data.

statistic → max min

average.

Skewness.

Box plot.

Feature extraction.

↑

Mengembangkan punya dias.
↳ main Balancing → Error nya kecil
efisien.

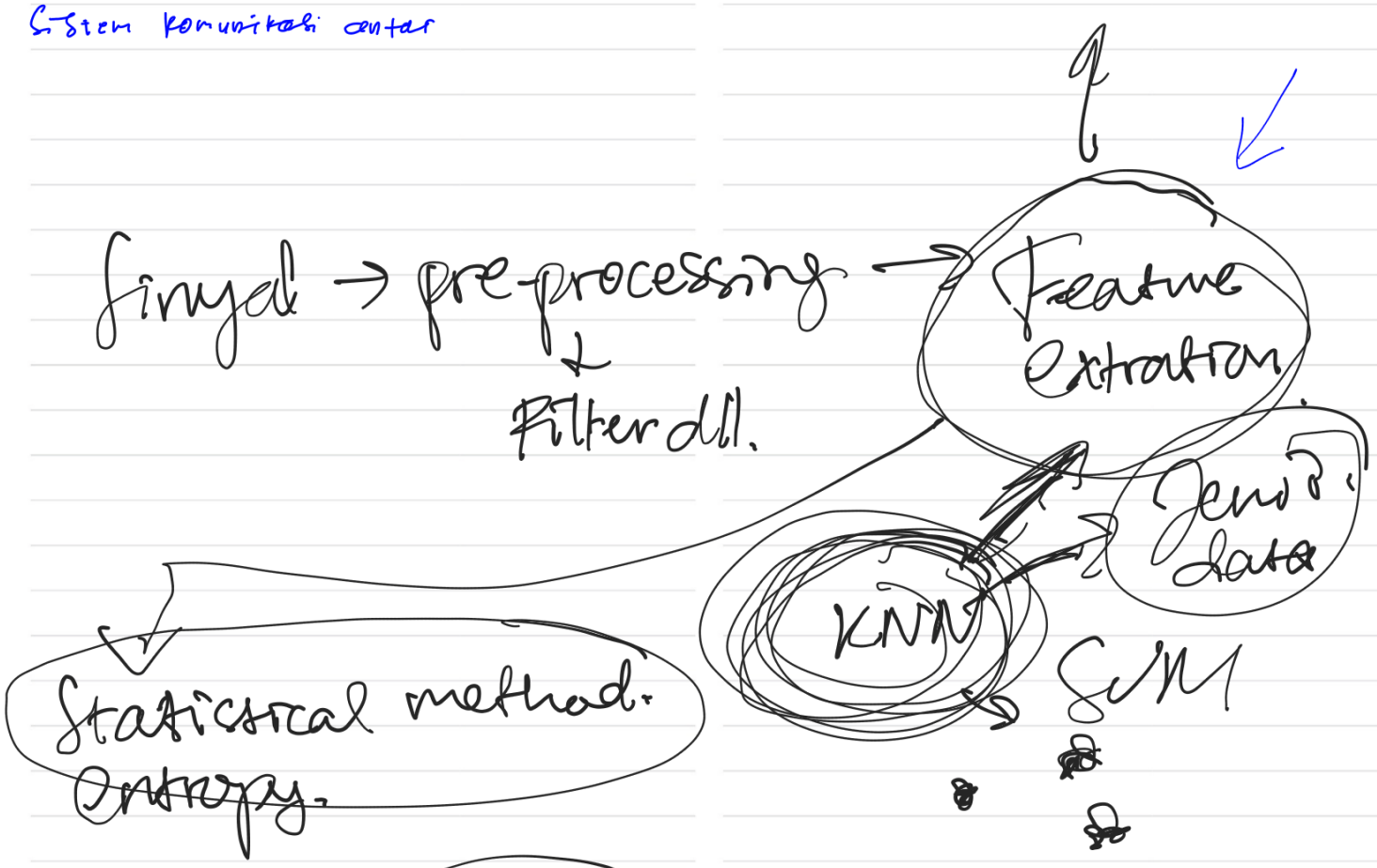
Balancing ...?

Ada yang ditambahin

Propose metode Recur

Data now buat besok
↳ Sistem prediksinya masih salah
↳ Historical data kemarin tidak
↳ Perjam → forecast perjam

Sistem komunikasi antar



SVM
ACC = 80%

KNN + SVM
ACC = ↑ 98%.

Accuracy improved.

Coba dikaitkan dari paper lain.

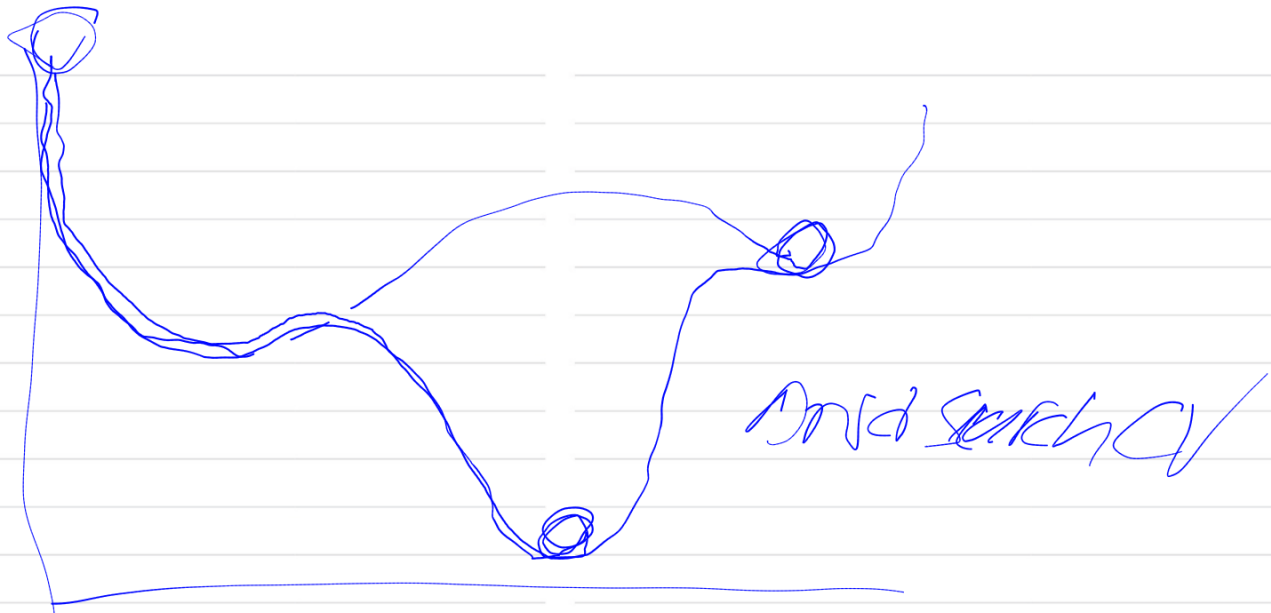
ketika dikelompokan.
↳ machine learning akan
Mengenali lebih mudah.

Paper Review
- Random forest + - nya apa.

Box Plot.
Skewness.
average
min max.

Dijadiin kecil
lebih komprehensif
Semakin banyak noise.
↳ butuh banyak data.
kecuali ada kendala nya.

Sisi



xgboost( ) n_estimators

xgboost(learning_rate = 0.001)

Industrial IOT

Alat IOT

data.

CIA

confidentiality

Firebase. → ejs

+ ML.

→ Pagi

data rentan.

API

Keamanan.

Security.

Back end. → ejs & Pagi

Realtime.

Website

arduino → akuisisi data.

Scada web.

LabView

BTP → kolam 3

Hujan lebat

Data → Banjir → alarm. / → Software.

Sirine.

Buka pintu air otomatis

water management System.

Gerbang Pembuangan air.

API Gempa BMKG.

Lab View

wifi/Bluetooth.

Serial.

ESP32

wifi/Bluetooth

waste water treatment.

driver motor

motor

naik (ccw)

turun (cw)

gear

gerbang.

motor.

B

Sistem kerja

Alarm 3 ← Alarm 1 → indikator kerja motor

Indikasi kejadian alarm.

ESP32-1

Pengisian

ESP1 → motor → gate

Gateway

PC ← Gateway

ESP32_2

Pembuangan

Cloud.

ESP2 → motor → gate

API

Alarm 2

Backend → Website

Weather Station

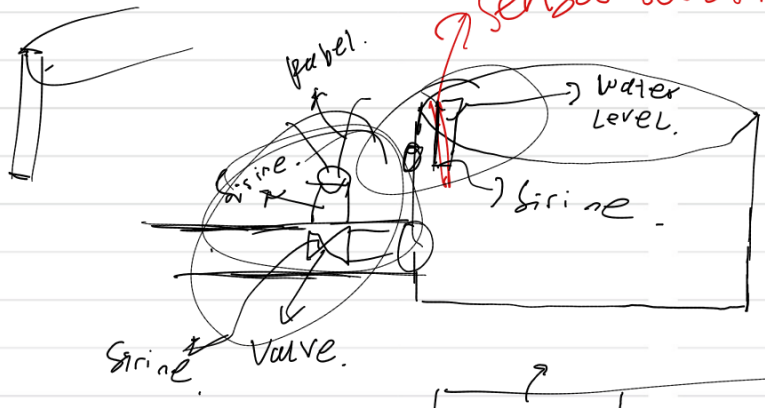
Labview

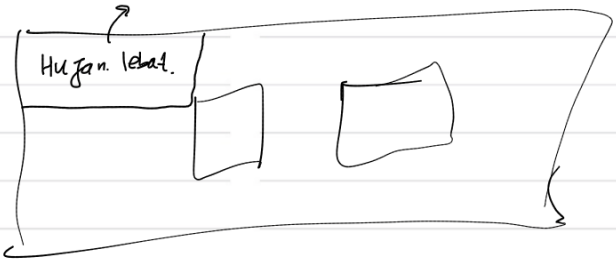
Lab View

1 : 2000 Daerah Gedung.

sensor level. ← tinggi air

Solenoid Valve.





water Control System.

- opsi
1. minimum water level.
2.

Pertanyaan.

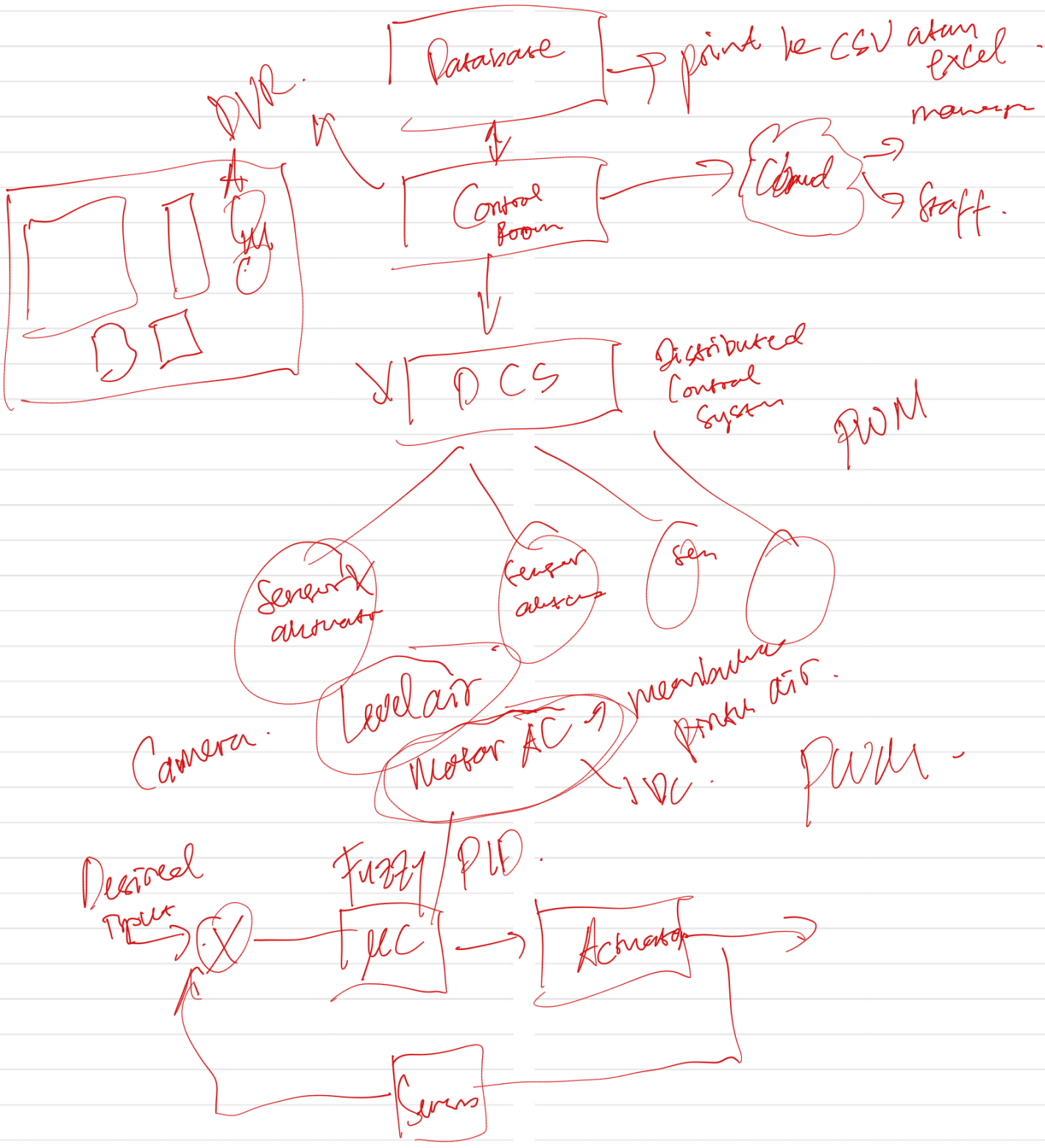
Prediksi	action
Hujan	—
Hujan lebat	kerannya.
Badai	warning. → wajib buka keran.

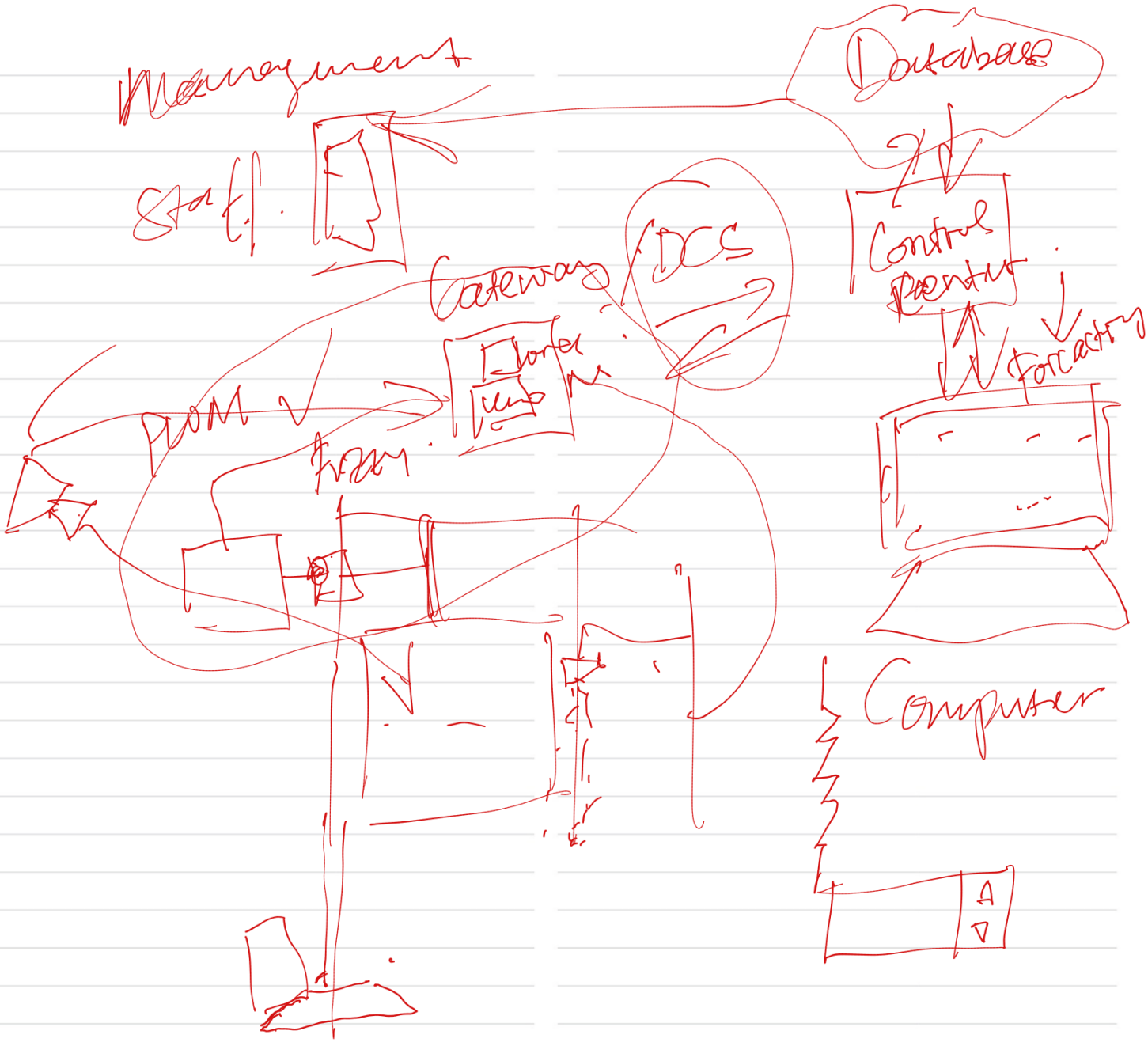
Research method.

- Context aware.
- Fuzzy logic
- kalibrasi Sensor kelembapan.

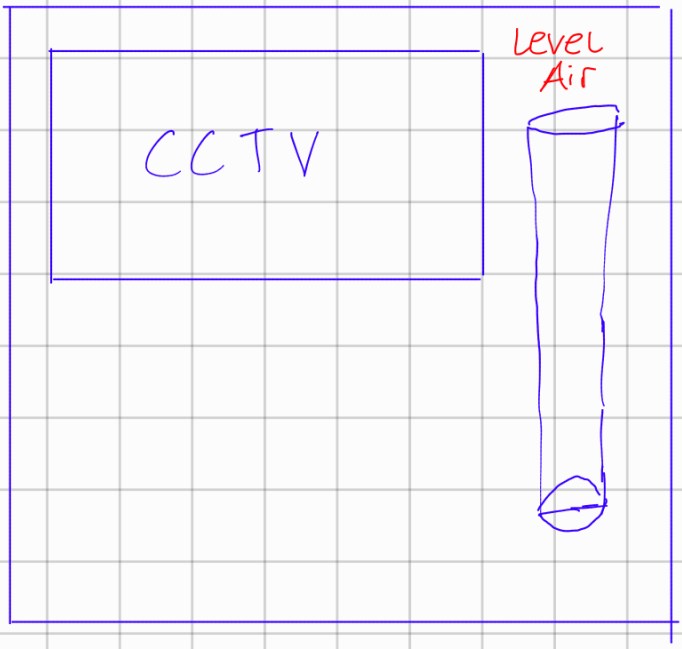
Hasil perancangan alat.

Paper Mitigasi Banjir.





Kalman filter Alg.



Buzzer
sedang
bekerja.

optional.

Software Hardware. Control