

LANGKAH KERJA

SEPAKAT - Modul Integrasi: Integrasi Data Regsosek, sebagai Informasi Dasar Individu, dengan Data Terkait menggunakan Pendekatan Resolusi Entitas

<https://sepakat-integrasi.vercel.app/>

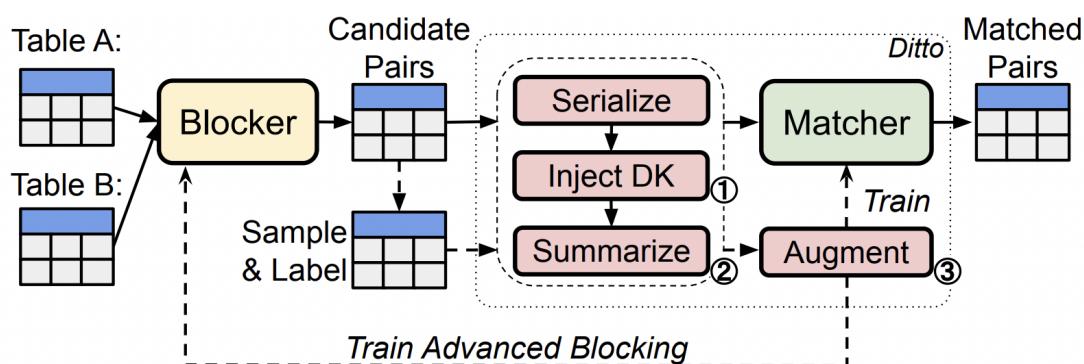
<https://github.com/AdityaSetyadi/sepakat-integrasi>

<https://bit.ly/sepakat-integrasi-slide>



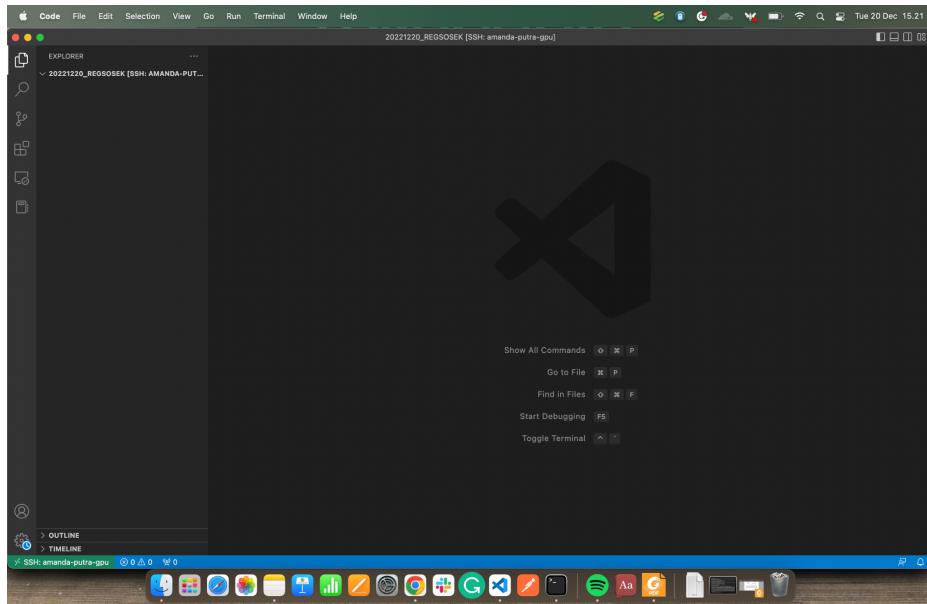
Data Preprocessing dan End-to-End Model Development

Secara umum untuk melakukan resolusi entitas, diperlukan model entity matching individu yang dikembangkan menggunakan framework Ditto. Gambaran singkat proses olah data dan penyediaan model deep learning adalah sebagai berikut:

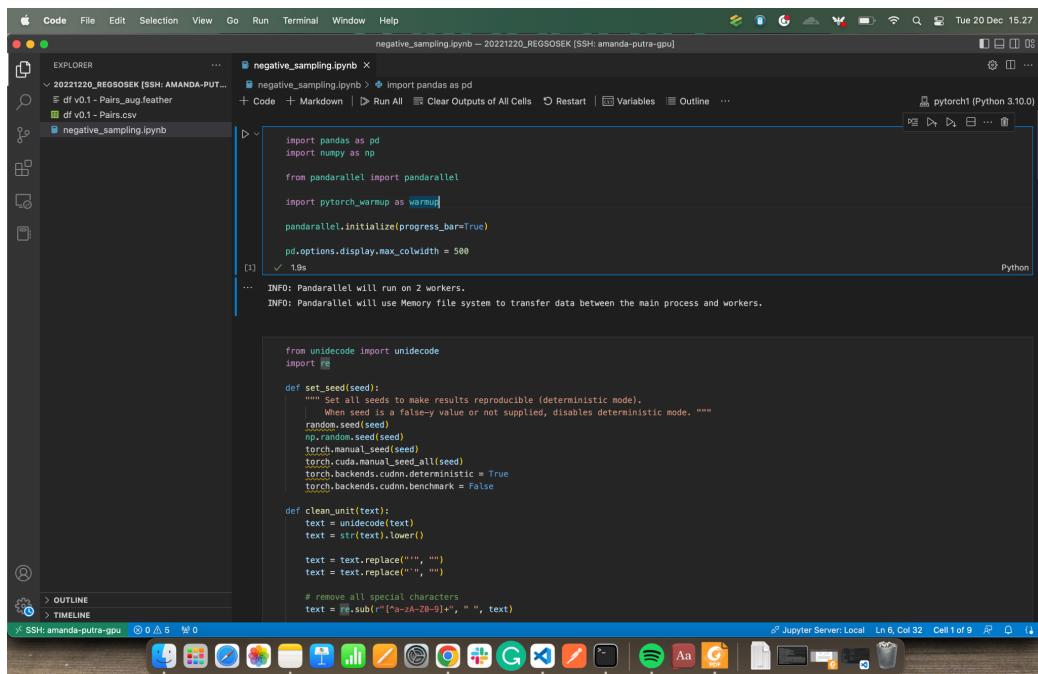


A. Data Preparation & Data Preprocessing

1. Membuka aplikasi VSCode dan menyiapkan direktori



2. Mengakses data dummy dan melakukan augmentasi data menggunakan teknik negative sampling



Data dummy diperoleh dari hasil studi matching yang dilakukan oleh BPS.



B. Pengembangan Model Entity Matching

1. Melakukan Training Model Ditto: Entity Matching Menggunakan IndoBERT base p2 sebagai pretrained language model

The screenshot shows a Jupyter Notebook environment on a Mac OS X desktop. The top menu bar includes Code, File, Edit, Selection, View, Go, Run, Terminal, Window, and Help. The status bar at the top right shows the date and time: Tue 20 Dec 15:43. The notebook interface has two open cells:

- Cell 1:** Displays Python code for training a Ditto model using IndoBERT base p2. The code includes logic for calculating precision, recall, and specificity based on validation metrics.
- Cell 2:** Displays training logs. The logs show the following metrics across multiple epochs:
 - Epoch 1: Train loss: 0.6918, Validation Accuracy: 0.6927, Validation Precision: 0.6188, Validation Recall: 0.9951, Validation Specificity: 0.3913
 - Epoch 2: Train loss: 0.3892, Validation Accuracy: 0.9826, Validation Precision: 0.9694, Validation Recall: 0.9978, Validation Specificity: 0.9665

The bottom of the screen shows the Mac OS X dock with various application icons.

Variabel yang digunakan pada data dummy terdiri dari Nama, Nama KK, Jenis Kelamin, dan Umur.

2. Benchmark performa model pada data test (10% data)

The screenshot shows a Jupyter Notebook cell with the following content:

```
report = benchmark_model(cek)
pd.DataFrame(report).transpose()
```

The output of the cell is a performance report table:

	precision	recall	f1-score	support
0	0.9934	0.9978	0.9956	910
1	0.9976	0.9930	0.9953	854
accuracy			0.9955	1764
macro avg	0.9955	0.9954	0.9955	1764
weighted avg	0.9955	0.9955	0.9955	1764

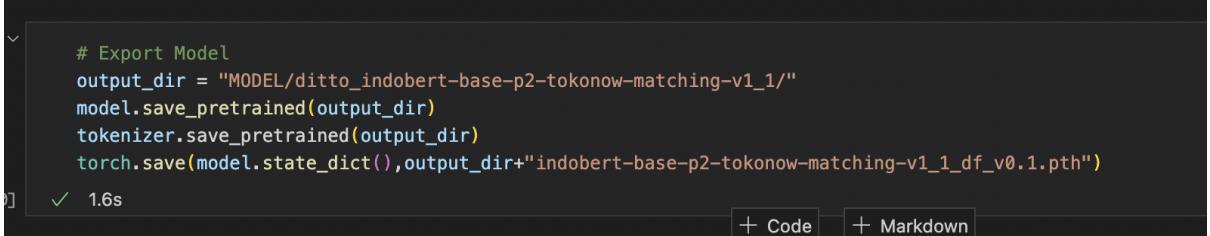
Below this, there is another table with identical data:

	precision	recall	f1-score	support
0	0.993435	0.997802	0.995614	910.000000
1	0.997647	0.992974	0.995305	854.000000
accuracy	0.995465	0.995465	0.995465	0.995465
macro avg	0.995541	0.995388	0.995460	1764.000000
weighted avg	0.995474	0.995465	0.995465	1764.000000

Hasil pengukuran ketepatan klasifikasi model Ditto melakukan klasifikasi matching data individu pada test set menunjukkan performa yang sangat baik, dengan nilai F1-score sebesar 99.55% dan akurasi sebesar 99.55%. Model selanjutnya disimpan untuk digunakan pada proses prediksi/inference.



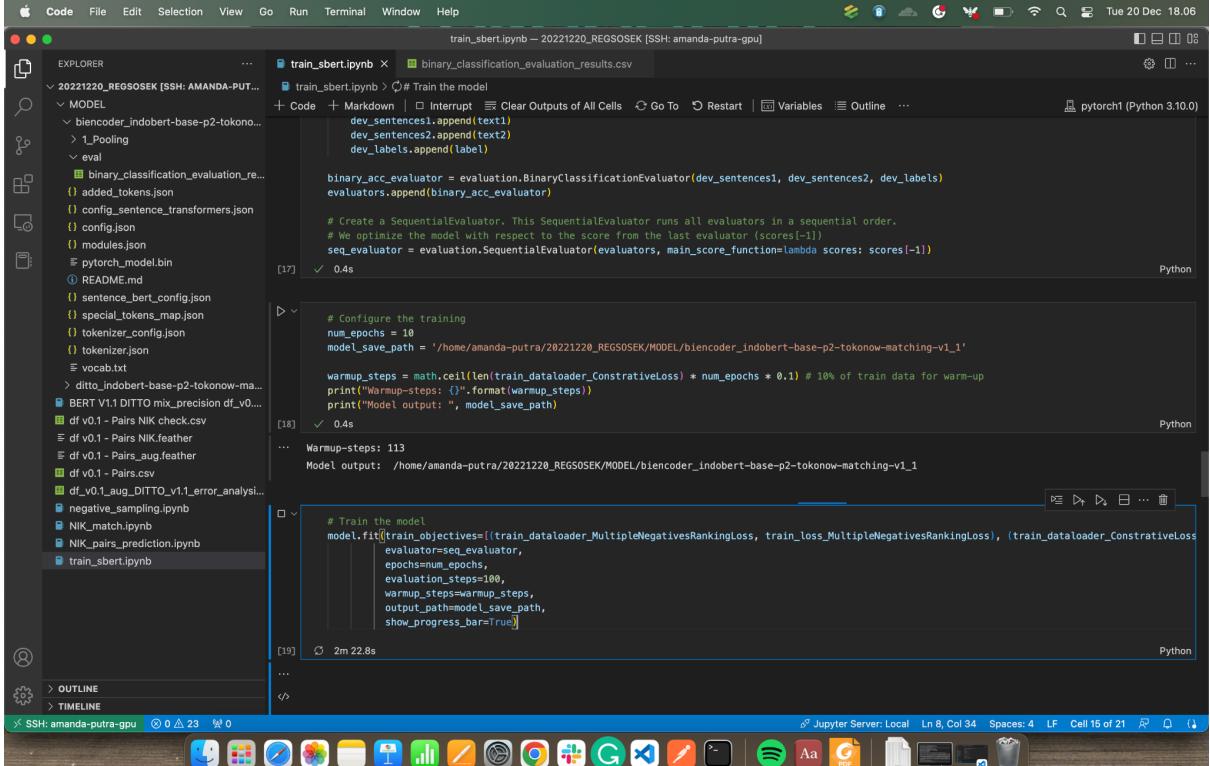
Model disimpan sebagai assets:



```
# Export Model
output_dir = "MODEL/ditto_indobert-base-p2-tokonow-matching-v1_1/"
model.save_pretrained(output_dir)
tokenizer.save_pretrained(output_dir)
torch.save(model.state_dict(),output_dir+"indobert-base-p2-tokonow-matching-v1_1_df_v0.1.pth")
```

1.6s + Code + Markdown

C. Pengembangan Sentence Embedding untuk Information Retrieval dan Data Blocking



The screenshot shows a Jupyter Notebook interface with several cells of Python code. The code is used for training a SentenceBERT model, configuring training parameters, and evaluating its performance. The interface includes a file explorer on the left showing project files like 'train_sbert.ipynb' and 'binary_classification_evaluation_results.csv'. The notebook tabs at the top include 'train_sbert.ipynb' and 'binary_classification_evaluation_results.csv'. The code cells contain various imports, model configurations, and evaluation logic.

Sesuai dengan yang diusulkan di proposal, untuk membuat pasangan data berdasarkan metode kemiripan, maka setiap entitas perlu diolah untuk menjadi embedding sebagai representasi vektor dari setiap individu. Hasil training model menggunakan metode SentenceBERT ternyata menunjukkan performa yang tidak memuaskan, dengan nilai F1 skor hanya sebesar 68% dan akurasi hanya sebesar 56.92%. Maka dari itu kami memutuskan untuk mengganti pendekatan information retrieval dan blocking dari awalnya berbasis vektor menjadi menggunakan token based pada Elasticsearch yang menerapkan algoritma BM25. Hasil pencarian individu menggunakan Elasticsearch memiliki akurasi untuk top-1 kandidat sebesar 60.2%, lebih baik 4% daripada pendekatan embedding SentenceBERT.

Usecase 1: Deduplikasi

The screenshot shows a Jupyter Notebook interface running on a Mac OS X system. The top menu bar includes Apple, Code, File, Edit, Selection, View, Go, Run, Terminal, Window, Help, and a date/time indicator. The left sidebar displays a file tree with various Python scripts and CSV files. The main area shows a code cell for 'ES_deduplikasi.ipynb' with the following content:

```
# pip install elasticsearch==8.3.3
from datetime import datetime
from elasticsearch import Elasticsearch

import pandas as pd
import numpy as np
from pandarallel import pandarallel
from tqdm import tqdm

pandarallel.initialize(progress_bar=True)
pd.options.display.max_colwidth = 500

import warnings
warnings.filterwarnings("ignore")
```

Execution output:

```
INFO: Pandarallel will run on 2 workers.
INFO: Pandarallel will use Memory file system to transfer data between the main process and workers.
```

Cell [2] (Python):

```
# create es connection LOCAL
es = Elasticsearch("http://localhost:9200")
es.ping()
```

Output [2]:

```
True
```

Cell [3] (Python):

```
es.info().body
```

Output [3]:

```
{'name': 'dad81c656d19',
 'cluster_name': 'docker-cluster',
 'cluster_uuid': 'Bjp2HNlIoFwv-NPA_305Pg',
 'version': {'number': '8.3.3',
 'build_flavor': 'default',
 'build_type': 'docker',
 'build_hash': '801fed82df74dbe537f89b71b098ccaff88d2c56'},
```

Persiapan kandidat data duplikat menggunakan elasticsearch

The screenshot shows a Jupyter Notebook interface running on an SSH connection to 'amanda-putra-gpu'. The notebook has several open cells:

- Cell 53:** Displays the result of `cek['pred'].value_counts()`, showing two rows:

	base_id	base_source.ent	_id	_source.ent
0	9941	[COL] nama [VAL] delfica vionintha [COL] kk [VAL] adisahputra [COL] umur [VAL] 2 [COL] gender [VAL] wanita	CE5E55C6-3FFC-4BD2-BB02-4E5B5172F72B#	[COL] nama [VAL] delfica vionintha [COL] kk [VAL] adisahputra [COL] umur [VAL] 2 [COL] gender [VAL] wanita
1	9	[COL] nama [VAL] delfica vionintha [COL] kk [VAL] adisahputra [COL] umur [VAL] 2 [COL] gender [VAL] wanita	CE5E55C6-3FFC-4BD2-BB02-4E5B5172F72B#	[COL] nama [VAL] delfica vionintha [COL] kk [VAL] adisahputra [COL] umur [VAL] 2 [COL] gender [VAL] wanita
- Cell 61:** Displays the result of `cek[cek['pred']==1][['base_id','base_source.ent','_id','_source.ent']]`:

	base_id	base_source.ent	_id	_source.ent
0	1734	[COL] nama [VAL] delfica vionintha [COL] kk [VAL] adisahputra [COL] umur [VAL] 2 [COL] gender [VAL] wanita	CE5E55C6-3FFC-4BD2-BB02-4E5B5172F72B#	[COL] nama [VAL] delfica vionintha [COL] kk [VAL] adisahputra [COL] umur [VAL] 2 [COL] gender [VAL] wanita
1	8218	[COL] nama [VAL] delfica vionintha [COL] kk [VAL] adisahputra [COL] umur [VAL] 2 [COL] gender [VAL] wanita	CE5E55C6-3FFC-4BD2-BB02-4E5B5172F72B#	[COL] nama [VAL] delfica vionintha [COL] kk [VAL] adisahputra [COL] umur [VAL] 2 [COL] gender [VAL] wanita
2	914	[COL] nama [VAL] roben br sembiring [COL] kk [VAL] roben br sembiring [COL] umur [VAL] 62 [COL] gender [VAL] wanita	C0366554-5AD2-477C-92F2-F7A00B70B0B#	[COL] nama [VAL] roben sembiring [COL] kk [VAL] roben sembiring [COL] umur [VAL] 62 [COL] gender [VAL] wanita
3	2368	[COL] nama [VAL] lusiyana br tarigan [COL] kk [VAL] sastra tarigan [COL] umur [VAL] 10 [COL] gender [VAL] wanita	82CFA453-2255-4118-94C7-599D44B9704B#	[COL] nama [VAL] lusiyana br tarigan [COL] kk [VAL] sastra tarigan [COL] umur [VAL] 10 [COL] gender [VAL] wanita
4	8261	[COL] nama [VAL] lusiyana br tarigan [COL] kk [VAL] sastra tarigan [COL] umur [VAL] 10 [COL] gender [VAL] wanita	82CFA453-2255-4118-94C7-599D44B9704B#	[COL] nama [VAL] lusiyana br tarigan [COL] kk [VAL] sastra tarigan [COL] umur [VAL] 10 [COL] gender [VAL] wanita
5	8383	[COL] nama [VAL] juniati br ginting [COL] kk [VAL] adisahputra [COL] umur [VAL] 28 [COL] gender [VAL] wanita	CE5E55C6-3FFC-4BD2-BB02-4E5B5172F72B#	[COL] nama [VAL] juniati br ginting [COL] kk [VAL] adisahputra [COL] umur [VAL] 28 [COL] gender [VAL] wanita
6	434	[COL] nama [VAL] juniati br ginting [COL] kk [VAL] adisahputra [COL] umur [VAL] 28 [COL] gender [VAL] wanita	CE5E55C6-3FFC-4BD2-BB02-4E5B5172F72B#	[COL] nama [VAL] juniati br ginting [COL] kk [VAL] adisahputra [COL] umur [VAL] 28 [COL] gender [VAL] wanita
7	6622	[COL] nama [VAL] baiq anindya t i [COL] kk [VAL] i virini isnadi [COL] umur [VAL] 8 [COL] gender [VAL] wanita	938B2A95-F9E0-47FF-9A36-3E130DE557B4#	[COL] nama [VAL] baiq anindya t i [COL] kk [VAL] i virini isnadi [COL] umur [VAL] 8 [COL] gender [VAL] wanita
8	5531	[COL] nama [VAL] baiq anindya t i [COL] kk [VAL] i virini isnadi [COL] umur [VAL] 8 [COL] gender [VAL] wanita	938B2A95-F9E0-47FF-9A36-3E130DE557B4#	[COL] nama [VAL] baiq anindya t i [COL] kk [VAL] i virini isnadi [COL] umur [VAL] 8 [COL] gender [VAL] wanita
- Cell 55:** Displays the result of `cek.to_csv('df_v0.1 - Pairs Deduplicate check_upd.csv', index=False)`:

	base_id	base_source.ent	_id	_source.ent
0	0.4s			

Hasil pencarian duplikat dengan pendekatan resolusi entitas berhasil menemukan sejumlah entitas yang duplikat yang ditandai dengan karakteristik yang mirip/serupa namun memiliki ID input data yang berbeda.

Usecase 2: Penjaminan Single ID

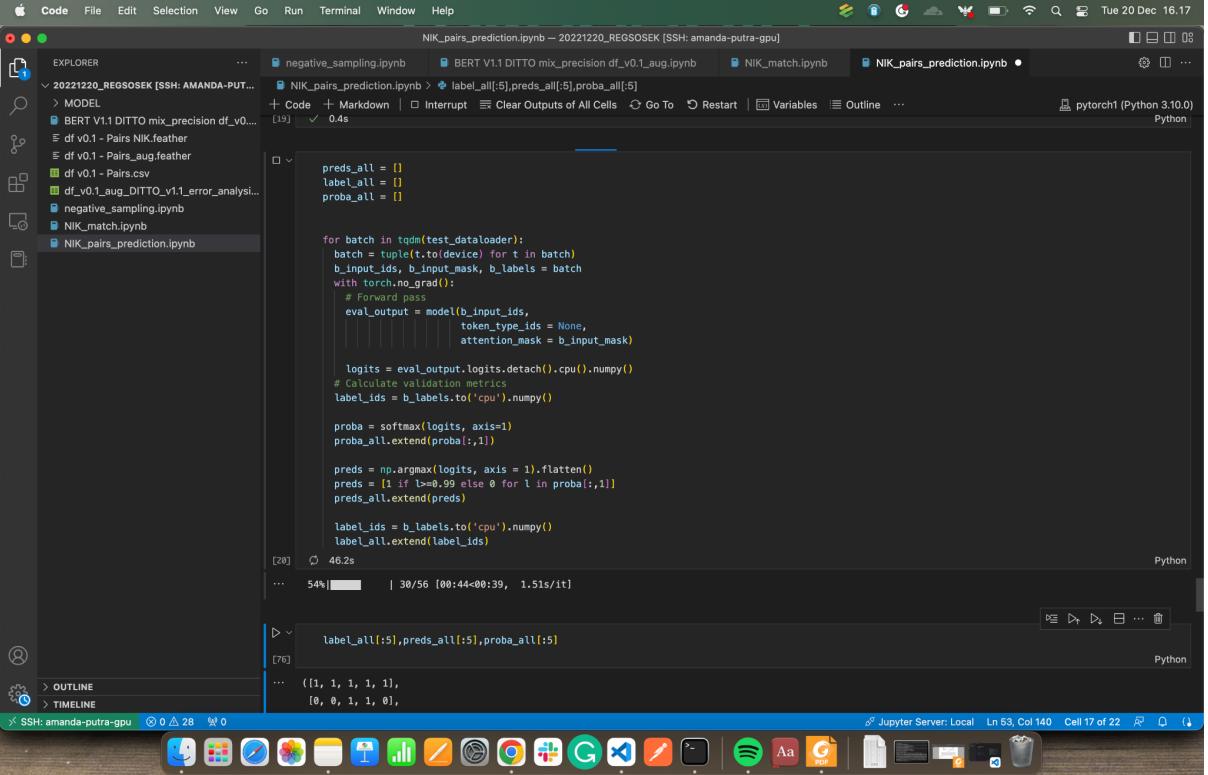
1. Melakukan Pautan Data Menggunakan NIK (*Deterministic Linkage*)

```
df_join = df_pes.merge(df_sp, left_on='nik_pes', right_on='nik_sp').reset_index(drop=True)
```

blok_pes	id_ruta_pes	id_art_pes	no_kk_pes	nik_pes	nama_pes	nama_krt_pes	jk_pes	umur_pes	blok_sp	id_ruta_sp	id_art_sp	
0	13	F96542A9-8365-44B4-B537-D988E91D802F	0	9.971040e+15	9971040101990000	rahmatullah	rahmatullah	pria	40	13	12026031.0	1.0 9.9
1	22	64C01B61-3874-40F8-852B-9B5CEEF00004	2	9.908057e+15	9908056912990000	nur azizah	sadali	wanita	7	22	1014020.0	3.0 9.9
2	2	D2BB3292-315A-4CAA-BB21-6263A79309BD5	3	9.907041e+15	9907041006990000	sahid ahiansyahri	ingan sembiring	pria	15	7	1046057.0	3.0 9.9
3	21	F9A83F7D-7A99-4213-B5D5-09FEAF6F76F9	1	9.908034e+15	9908034107990000	ajirah	jamaluddin	wanita	60	21	1017024.0	2.0 9.9
4	21	F9A83F7D-7A99-4213-B5D5-09FEAF6F76F9	1	9.908034e+15	9908034107990000	ajirah	jamaluddin	wanita	60	21	1036048.0	4.0 9.9
...
82937	19	A9F842B9-5D7A-44B4-A9B9-FBDD07B3A24	1	9.971056e+15	9971055511990010	djep tiui kheng	ng tji auw lip	wanita	48	19	5034040.0	2.0 9.9
82938	6	D560DD1D-FE34-42B0-85D5-640493C5E1A6	1	9.907274e+15	9907274101990000	tria dani	saiful karim	wanita	29	6	1012015.0	1.0 9.9
82939	6	D560DD1D-FE34-42B0-85D5-640493C5E1A6	1	9.907274e+15	9907274101990000	tria dani	saiful karim	wanita	29	6	1052063.0	2.0 9.9
82940	13	098017B2-0F65-43E2-B320-AE3C816E173	0	9.971021e+15	9971020912990000	i putu gede riana	i putu gede riana	pria	36	13	12070078.0	1.0 9.9
...

Data dijoin menggunakan fungsi merge pada library pandas berdasarkan variabel NIK. data dengan NIK yang missing dan NIK dengan kode tertentu akan diabaikan. Hasil pentautan ini menghasilkan pasangan data sebanyak 14.308 pairs.

2. Melakukan Penjaminan Kulitas Single ID menggunakan ML



The screenshot shows a Jupyter Notebook interface running on an Apple Mac. The top menu bar includes Code, File, Edit, Selection, View, Go, Run, Terminal, Window, and Help. The title bar indicates the notebook is titled 'NIK_pairs_prediction.ipynb' and was run on '20221220_REGSOSEK [SSH: amanda-putra-gpu]' at 'Tue 20 Dec 16:17'. The left sidebar shows a file tree with several files: 'negative_sampling.ipynb', 'BERT V1.1 DITTO mix_precision df_v0.1.ipynb', 'NIK_pairs_prediction.ipynb', 'label_all[:5].preds_all[:5].proba_all[:5].ipynb', 'NIK_match.ipynb', and 'NIK_pairs_prediction.ipynb'. The main area displays Python code for a machine learning model. The code uses PyTorch's `tqdm` library for progress bars, defines variables like `preds_all`, `label_all`, and `proba_all`, and performs a forward pass through a model. It then calculates validation metrics using `softmax` and `argmax` functions. The code concludes with a print statement showing a list of lists: `[[1, 1, 1, 1, 1], [0, 0, 1, 1, 0]]`. The bottom status bar shows the command line is 'SSH: amanda-putra-gpu', the kernel is 'Python', and the current cell number is 'Cell 17 of 22'.

Hasil pentautan data menggunakan NIK selanjutnya digunakan untuk melakukan prediksi matching menggunakan Model Ditto yang telah ditraining sebelumnya. Proses prediksi dilakukan secara batch dengan ukuran batch sebesar 256 pairs. Model mampu melakukan prediksi data dengan performa sebesar 174 query per second (QPS). artinya model ini telah teruji mampu melakukan prediksi matching dengan throughput sebesar 256 pairs dalam satu kali input dengan kecepatan prediksi sebanyak 174 pairs setiap detik. Artinya satu pasangan input data hanya memerlukan prediksi waktu sebesar 5 milisecond (5 ms). Hal ini penting untuk diuji untuk memastikan bahwa model layak untuk digunakan di production environment.

Hasil prediksi matching dengan menggunakan threshold ukuran kemiripan sebesar 0.99 menunjukkan bahwa pentautan dengan menggunakan NIK memiliki jumlah awal pasangan yang valid sebanyak 8.351 pairs dengan cakupan sebesar 95.68% dan memuat error rate sebesar 7.07%. Dengan demikian, pendekatan resolusi entitas secara real hanya mencakup 88% dari total data dasar yang tersedia. 12% merupakan angka yang cukup besar dengan asumsi penduduk Indonesia sebanyak 270 Juta jiwa, artinya akan ada sekitar 32.4 juta penduduk yang gagal tertaut. Gap ini harusnya dapat diisi dengan menggunakan *probabilistic linkage* menggunakan atribut data.

Berikut adalah contoh hasil pendekripsi kesalahan pentautan menggunakan NIK

id	blok_p	nik_pes	nama_pes	nik_sp	nama_sp	la	pi	prob	conf
BC9659FC-FA4f	1	9907035205990000	nasip br bangun	9907035205990000	piahmalem br tarigan	1	0	87.17%	74.34%
28E24D43-8D8E	1	9907035205990000	piah malem br trg	9907035205990000	nasip br bangun	1	0	90.34%	80.67%
C21C9148-C4E0	1	9907035012990000	tabita br barus	9907035012990000	rehngenana br barus	1	0	93.37%	86.74%
284FCF96-BF8E	1	9907034805990000	likaroyana br bukit	9907034805990000	rasinta br gingting	1	0	5.61%	88.78%
352ED618-CA87	1	9907036904990000	eninta br purba	9907036904990000	akhya ananta purba	1	0	5.37%	89.26%
1450D6C2-6AC8	1	9907036612990000	destalia br barus	9907036612990000	medsen lisna	1	0	96.35%	92.69%
13C19B0C-91C8	1	9907034107990000	metek purba	9907034107990000	rulau keliat	1	0	3.37%	93.26%
BA5F41F4-5DC8	1	9907034201990000	jesika asvirensya	9907034201990000	sehat br barus	1	0	3.35%	93.29%
3ED63C77-160E	1	9907031010990000	laspen tarigan	9907031010990000	ngekekping gingting	1	0	3.23%	93.54%
5992D9F7-FF93	1	9907051503990000	adisaputra	9907051503990000	bira bars	1	0	2.22%	95.57%

Usecase 3: Linkage berdasarkan kemiripan atribut

The screenshot shows a Jupyter Notebook environment with several cells of code and their outputs. The notebook is titled 'ES_linkage.ipynb' and is running on a server named '20221220_REGSOSEK'. The code includes:

- Importing libraries: nlpaug (Python 3.10.4) and df_all.to_feather('df_v0.1 - Pairs linkage prob.feather')
- Displaying a large dataset (26184 rows x 10 columns) with columns labeled with gender, names, and NIK numbers.
- Running a cell with the command `df_all['label'].value_counts()`, which outputs:

```

[17]  ✓ 0.4s
...
0   19829
1   6355
Name: label, dtype: int64

```
- Running another cell with the command `print("ES Top-3 Accuracy: {:.3}").format(6355/8728*100)`, which outputs:

```

[19]  ✓ 0.5s
...
ES Top-3 Accuracy: 72.8

```
- Running a final cell with the command `df_all.to_feather('df_v0.1 - Pairs linkage prob.feather')`.

Proses cleaning attribute di google sheet untuk menentukan link data tanpa NIK. Proses ini menambah pentautan data sebanyak 357 pairs (~4.2%). Total coverage akhir menjadi 92%.

Screenshot of a Google Sheets document titled "df v0.1 - Pairs NIK check". The sheet contains data from row T8351 to R8355. The columns include F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, and V. The data consists of pairs of names and their corresponding NIK numbers. The last few rows show a sequence of names and NIK numbers, followed by a large block of Indonesian text.

F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
8296	wanita	5	25	9908204910990	indara	dulla	wanita	61	1	0	0.20%	99.59%	E5067DDA-BF1	104004#7#2	syahre ni [COL] kk [VAL] alibe [COL] umur [VAL] 6 [...]	
8297	wanita	26	26	9908225090990	melly anjani	sahardi	wanita	5	1	0	0.20%	99.59%	783A4902-CCF1	1031035#3	muh aqsyah selfani [COL] kk [VAL] sehe h [COL] umr...	
8298	pria	41	25	9908202011990	irwansya	burhan	pria	10	1	0	0.20%	99.59%	E5067DDA-BF1	201201#4#4	herman s pd [COL] kk [VAL] herman s pd [COL] umur ...	
8300	wanita	39	4	9907074110990	rehulina sembrini	dalan nggit sitip	wanita	59	1	0	0.20%	99.59%	C6346126-6260	103603#9#2	dit br karo [COL] kk [VAL] dit br karo [COL] umur ...	
8305	wanita	37	19	9971055301990	rini novitasari	hidayat	wanita	17	1	0	0.20%	99.60%	B8B84975-3CF4	500500#8#3	roheil [COL] kk [VAL] agus manwi [COL] umur [VAL] ...	
8310	wanita	33	11	9903186104990	isnawati	ismail	wanita	30	1	0	0.20%	99.60%	B498AE46-25D2	206100#6#2	desianti [COL] kk [VAL] zulkarnain [COL] umur [VAL] ...	
8311	pria	16	24	9908191001990	mu hafiz	ida	pria	31	1	0	0.20%	99.60%	B408D1FF-761C	308107#0#2	mohd hafiz [COL] kk [VAL] abdu samad [COL] umur [...]	
8312	pria	21	28	9971120205990	sunan	sunggu	pria	35	1	0	0.20%	99.60%	C123FE5-B79	401401#8#2	husain aziz [COL] kk [VAL] abd azis [COL] umur [VA...]	
8315	wanita	56	7	9971035611990	anisa yuhandani suriahian	wanita	wanita	7	1	0	0.20%	99.60%	D68339A-387C	106590#4#4	efendi hutagalung [COL] kk [VAL] efendi hutagalung...	
8317	pria	15	8	9971180303990	martin salim	agus salim	pria	28	1	0	0.20%	99.61%	47AA3A78-CFC	105807#8#4	mhd ibnu [COL] kk [VAL] mohammad ridwan [COL] umur...	
8318	pria	41	25	9908202608990	fikri	firmam	pria	4	1	0	0.20%	99.61%	D7C63C37-A82	204605#3#6	amale [COL] kk [VAL] ibe [COL] umur [VAL] 42 [COL]...	
8320	pria	16	25	9908201801990	mu haffian	sofyam	pria	6	1	0	0.20%	99.61%	E5067DDA-BF1	203403#9#3	erik setiawan [COL] kk [VAL] alibe [COL] umur [VAL] ...	
8323	pria	31	24	9908192506990	muhammad fitra irwan	pria	pria	5	1	0	0.20%	99.61%	F81A7754-1F54	150390#3#9#3	irfan [COL] kk [VAL] abd rahman [COL] umur [VAL] 3...	
8324	pria	17	29	99081140705990	rafayfatir maular samat lestaluhu	wanita	wanita	7	1	0	0.20%	99.61%	F81A7754-1F54	150390#3#9#3	wa santi [COL] kk [VAL] la ganti [COL] umur [VAL] 3...	
8327	pria	1	26	9908221606990	muh aqsyah self sehe h	pria	pria	18	1	0	0.19%	99.61%	A48F8C09-E3E3	104104#9#3	nur amallah hasyim [COL] kk [VAL] hasanuddin [COL]...	
8328	wanita	0	6	99072761104990	nuri syahfira adli yoan habib angg wanita	wanita	wanita	29	1	0	0.19%	99.61%	FAFE7271-D877	106507#8#2	salsabila [COL] kk [VAL] hamdanid [COL] umur [VAL] ...	
8330	pria	13	11	9908180306990	jumahir	jumahir	pria	49	1	0	0.19%	99.61%	934EC301-D38E	209303#8#1	hafrul tabibi [COL] kk [VAL] sahibi [COL] umur [VA...]	
8332	wanita	37	24	9908194106990	tanggisi	bahtiar	wanita	80	1	0	0.19%	99.61%	D4710DE7-E2F1	306207#1#4	darmawati [COL] kk [VAL] muhammad rjal [COL] umur...	
8333	wanita	31	10	99083207112990	zubadeah	mahnun	wanita	39	1	0	0.19%	99.61%	A92F71E8-A34E	208708#8#2	sainun [COL] kk [VAL] sahman [COL] umur [VAL] 32 [...]	
8334	pria	6	25	9908201211990	rahmat	fatimang	pria	22	1	0	0.19%	99.61%	EE168EFB-DFC	204040#6#2	muhammad azhar [COL] kk [VAL] temi wal [COL] umu...	
8336	pria	33	8	9971181603990	mar hendri	nazianum	pria	36	1	0	0.19%	99.62%	4D7D7934-9816	102903#7#2	m mahluti [COL] kk [VAL] saiful abadi [COL] umur [...]	
8337	pria	10	14	9971052712990	mahdudin	mahdudin	pria	49	1	0	0.19%	99.62%	06C4991D-1A9	403204#1#1	aby rahman [COL] kk [VAL] m azni [COL] umur [VAL] ...	
8338	wanita	17	11	9908185305990	mainah	suhardi	wanita	39	1	0	0.19%	99.62%	C165B16-07E4	202102#9#2	rosipa maulida [COL] kk [VAL] moh suryadi [COL] ...	
8341	wanita	65	7	9971030610990	ezhar sandrian	jarot praseta	pria	2	1	0	0.19%	99.63%	586F320F-C03E	202403#0#3	rami silalahi [COL] kk [VAL] ramli silalahi [COL]...	
8342	wanita	29	21	9907056309990	nirwana	anwar	wanita	44	1	0	0.19%	99.63%	61609DD6-339E	200800#8#2	seri ulina br tiringa [COL] kk [VAL] seri ulina br ...	
8343	pria	3	28	9971126007990	saunah	saunah	wanita	47	1	0	0.19%	99.63%	D3655C93-B3B	400400#6#1	muh khsian n [COL] kk [VAL] rahmat [COL] umur [VA...]	
8347	pria	2	8	9971182210990	mhd fajar	khaidil	pria	18	1	0	0.19%	99.63%	F8F429E9-961B	101902#4#4	h marzuki [COL] kk [VAL] h marzuki [COL] umur [VAL]...	
8351	wanita	62	16	9901185804990	winda	ahmad arwan	wanita	3	1	0	0.18%	99.65%	952B2153-3A23	1400800#8#4	hatniah [COL] kk [VAL] tayeb [COL] umur [VAL] 62 [...]	

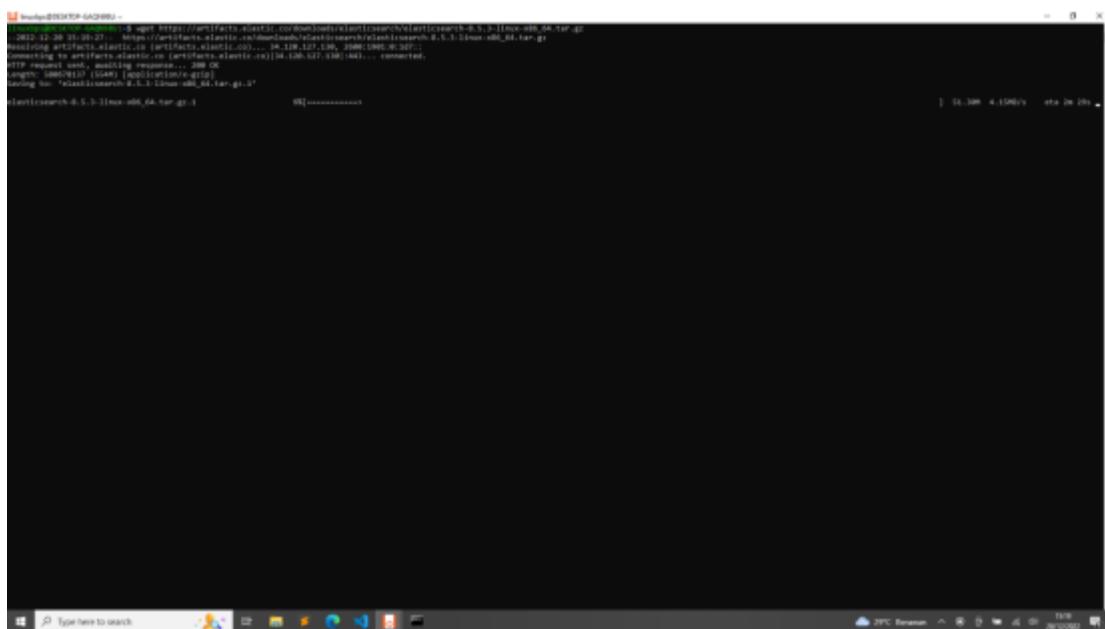
Usecase 4: Pencarian Individu

Backend

Backend engine : Elasticsearch

Elastic search adalah sebuah mesin pencari yang mempunyai basis lucene library. Mesin ini digunakan untuk melakukan pencarian terhadap data-data yang berbasis teks. Pada aplikasi ini elasticsearch akan digunakan sebagai mesin pencari untuk pembentukan kandidat matching pada usecase 1 dan 3, serta pencarian *realtime* dari data individu pada usecase 4.

1. Mengunduh Elasticsearch



2. Menjalankan server

3. Menguji apakah server telah berjalan

```
Administrator:~$ curl -X POST https://elasticsearch:9200/_search?pretty | curl https://curl.haxx.se/ca/curl-ca-bundle.crt -o elasticsearch.pem https://elasticsearch:9200/_source/_search?pretty
Enter host password for user "elastic":
{
  "name": "ESSEARCH-0A9A90C",
  "cluster_name": "elasticsearch",
  "cluster_uuid": "F9E02A9A90C000000000000000000000",
  "version": "7.6.1",
  "number_of_shards": 5,
  "number_of_replicas": 1,
  "scripted_index": true,
  "build_line": "7.6.1+dev-5330000+9ff404cc0d10be950fe",
  "build_hash": "4e45d5d9efc5330000+9ff404cc0d10be950fe",
  "build_snapshot": "false",
  "lucene_version": "7.4.1",
  "minimum_wire_compatibility_version": "7.17.0",
  "minimum_index_compatibility_version": "7.16.0"
}
{
  "tagline": "You Know, For Search"
}
Administrator:~$
```

Server telah berjalan pada <https://localhost:9200>. Elastic search sudah berhasil di install.

Frontend

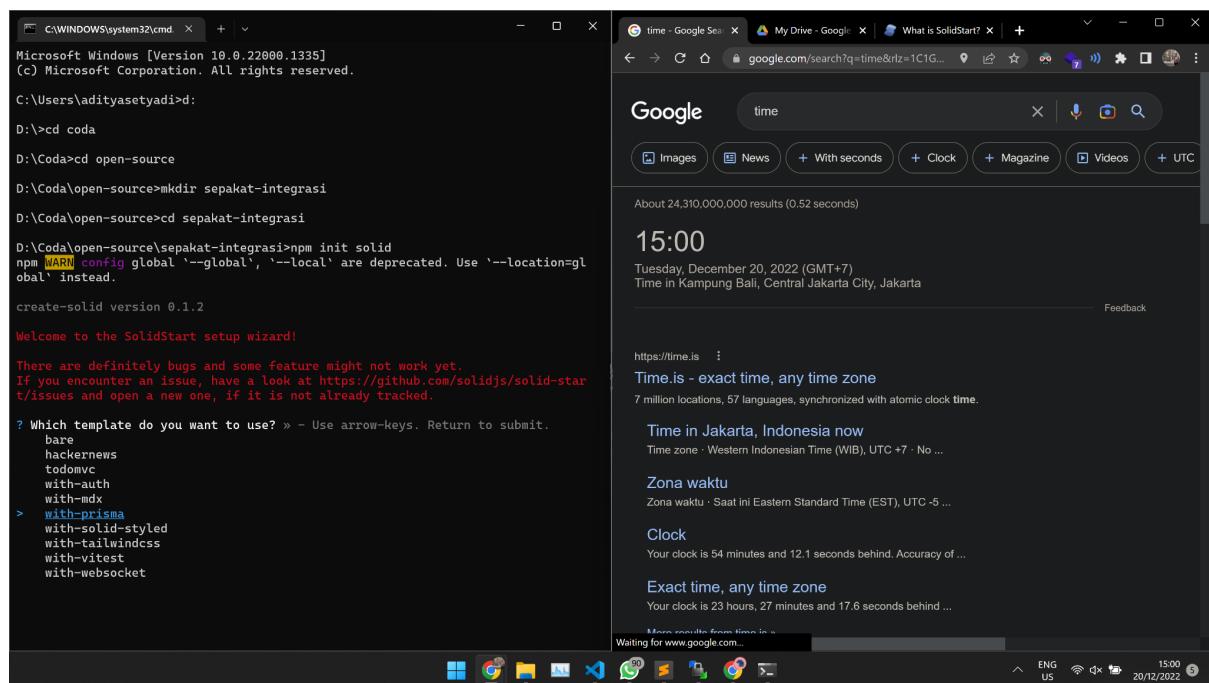
Frontend aplikasi ini menggunakan framework solid.js. Solid.js merupakan framework untuk membuat user interface aplikasi menggunakan bahasa pemrograman Javascript. Solid.js mendukung penyediaan user interface yang dinamis dengan performa yang baik pada laman web aplikasi yang dibangun.

A. Inisiasi repository

1. Instal librari SolidJS

Aplikasi menggunakan framework SolidJS dengan mempertimbangkan performa library sesuai dengan kebutuhan.

SolidJS masih terbilang baru, namun secara konsisten berada di puncak benchmarks kecepatan UI yang diakui dan pemanfaatan memori, primitif reaktif yang dapat dikomposisi digabung dengan fleksibilitas JSX, API yang masuk akal dan disesuaikan membuat pengembangan menjadi menyenangkan dan sederhana, serta ergonomis dan familiar untuk membangun hal-hal sederhana atau kompleks menjadi mudah.



The screenshot shows a Windows desktop environment. On the left, a command prompt window titled 'C:\WINDOWS\system32\cmd' is open, showing the following terminal session:

```
C:\Windows\system32\cmd + v
Microsoft Windows [Version 10.0.22000.1335]
(c) Microsoft Corporation. All rights reserved.

C:\Users\adityasyadi>d:
D:>>cd coda
D:\Coda>>cd open-source
D:\Coda\open-source>mkdir sepakat-integrasi
D:\Coda\open-source>cd sepakat-integrasi
D:\Coda\open-source\sepakat-integrasi>npm init solid
npm WARN config global `--global`, `--local` are deprecated. Use `--location=global` instead.

create-solid version 0.1.2
Welcome to the SolidStart setup wizard!

There are definitely bugs and some feature might not work yet.
If you encounter an issue, have a look at https://github.com/solidjs/solid-start/issues and open a new one, if it is not already tracked.

? Which template do you want to use? > - Use arrow-keys. Return to submit.
  bare
  hackernews
  todomvc
  with-auth
  with-mdx
  > with-prisma
  with-solid-styled
  with-tailwindcss
  with-vitest
  with-websocket
```

On the right, a web browser window is open to a Google search for 'time'. The search results page shows the current time as 15:00 on Tuesday, December 20, 2022, in Jakarta, Indonesia. It also lists other time-related services like Time.is and Zona waktu.



2. Inisiasi commit

The screenshot shows a Windows desktop environment. On the left, a browser window displays the GitHub repository 'AdityaSetyadi / sepakat-integrasi'. The repository page shows a single commit titled 'Initial commit' made by 'AdityaSetyadi' one minute ago. On the right, the Visual Studio Code interface is open, showing a 'Walkthroughs' sidebar with options like 'Learn the Fundamentals' and 'Get started with JavaScript and Node.js'. Below the sidebar is a terminal window showing the command 'git push -u origin main' being run. The terminal output indicates the push was successful, with 23 objects being enumerated, counted, and compressed, resulting in 89.71 KiB of data pushed at 3.98 MiB/s. The URL 'https://github.com/AdityaSetyadi/sepakat-integrasi.git' is shown, along with the message 'Branch 'main' set up to track remote branch 'main' from 'origin''. At the bottom of the screen, the taskbar shows various pinned icons.

Membuat Repositori di Github untuk bekerja sama, berkolaborasi, dan berbagi pakai antar anggota tim dalam pengembangan aplikasi.

3. Restruktur berkas

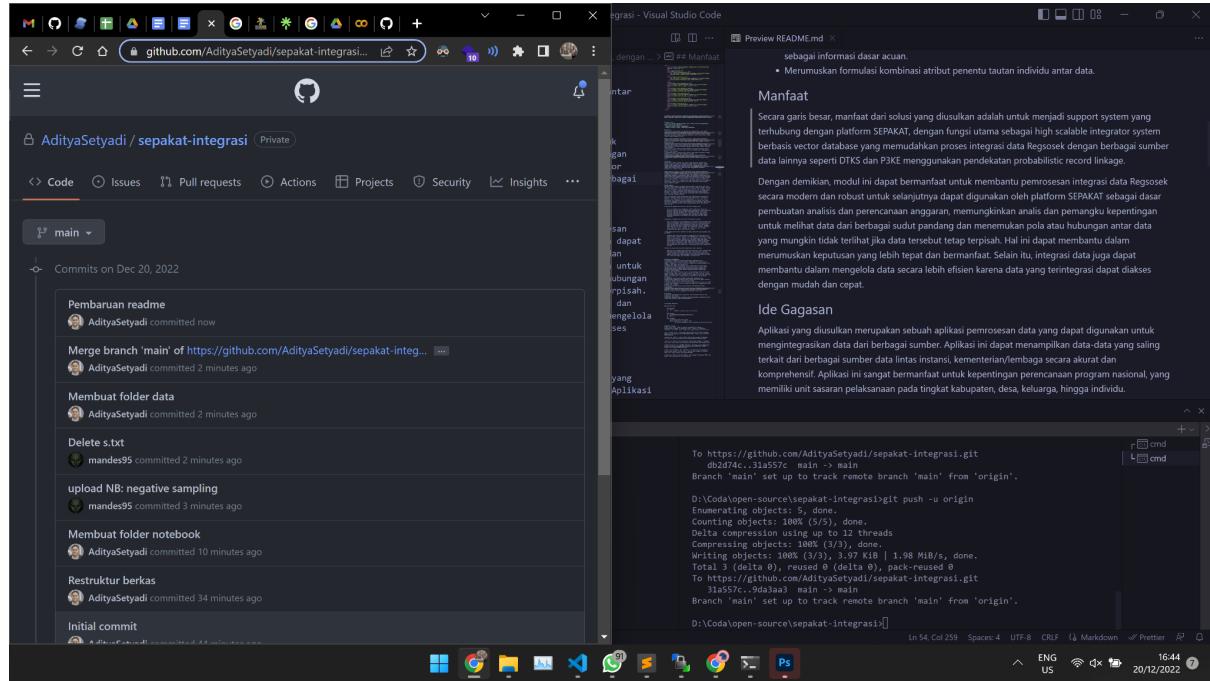
<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/dcc69f51799ef1c2bc76dbb684455d8e0821ce4e>

This screenshot is similar to the previous one but shows a second commit in the GitHub repository. The commit is titled 'Restruktur berkas' and was made by 'AdityaSetyadi' now. Below it is the 'Initial commit' from the previous screenshot. The Visual Studio Code interface and terminal window are also present, showing the same git push command and its successful execution. The taskbar at the bottom remains the same.



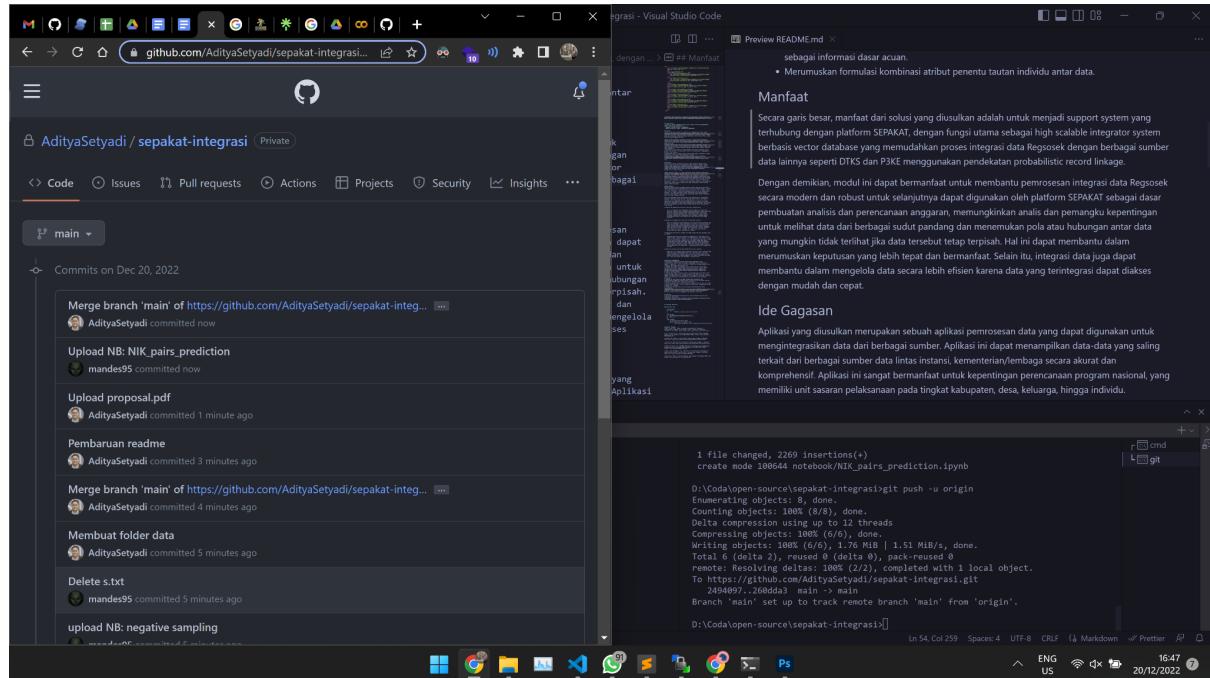
4. Pembaruan readme.md

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/dcc69f51799ef1c2bc76dbb684455d8e0821ce4e>



5. Upload Proposal.pdf

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/dcc69f51799ef1c2bc76dbb684455d8e0821ce4e>



6. Konfigurasi tailwind css

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/dcc69f51799ef1c2bc76dbb684455d8e0821ce4e>

The screenshot shows a GitHub commit interface in Visual Studio Code. The commit is titled "Konfigurasi tailwindcss" and was made by AdityaSetyadi. It includes a diff view of the package.json file, showing changes from version 0.0.1 to 0.0.2. The changes include updates to autoprefixer, postcss, solid-start-node, tailwind-scrollbar, tailwindcss, typescript, and vite. The commit message also mentions the addition of tailwindcss/forms. The right side of the screen shows a terminal window with a git push command being run, showing progress and completion.

B. Pembangunan Modul Aplikasi

1. Konfigurasi header

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/dcc69f51799ef1c2bc76dbb684455d8e0821ce4e>

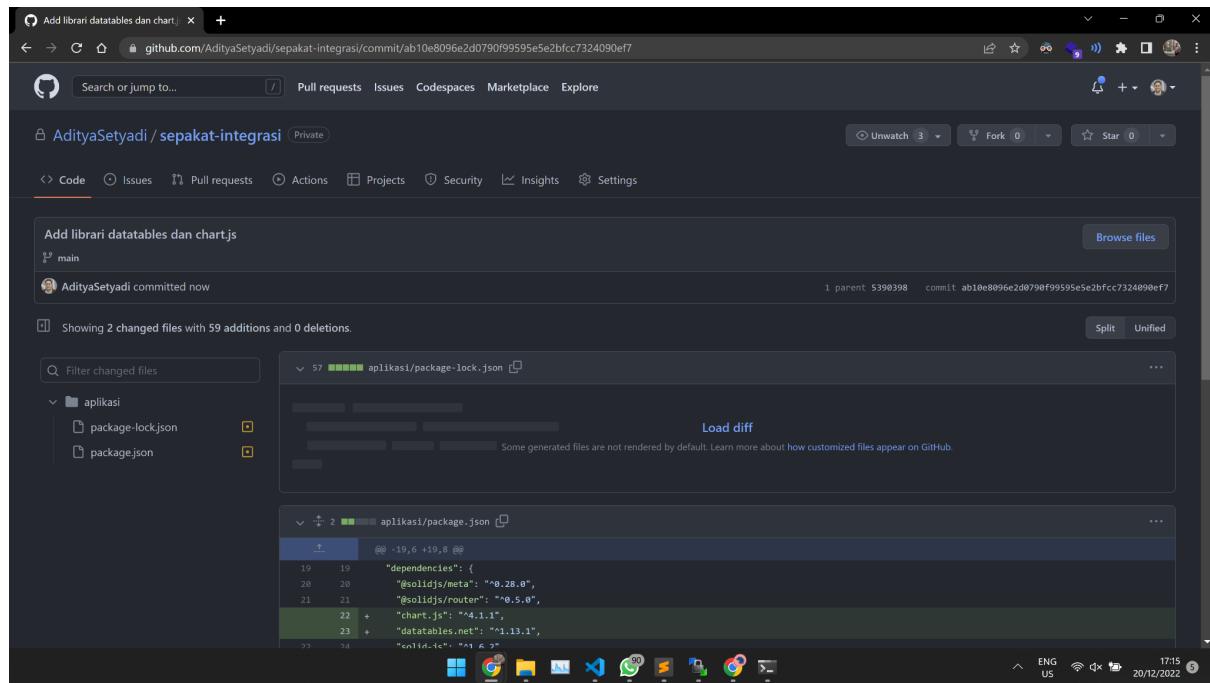
The screenshot shows a browser displaying a simple "Hello World!" application. The page has a header with links for Deduplikasi, Linkage, Penjaminan Single ID, and Pencarian Individu. Below the header is a large "HELLO WORLD!" text. Underneath it is a button labeled "Clicks: 0". At the bottom of the page, there is a link to visit solidjs.com. To the right of the browser, a GitHub commit interface for "Konfigurasi header" is shown. The commit was made by AdityaSetyadi and includes a diff view of the root.tsx file. The diff highlights changes related to the export of the Root component, the use of useState, and the definition of active states with specific CSS classes like "border-sky-600" and "border-transparent hover:border-sky-600".



Membuat dan mengatur starter aplikasi modul integrasi sepakat, sebagai langkah awal pengembangan aplikasi.

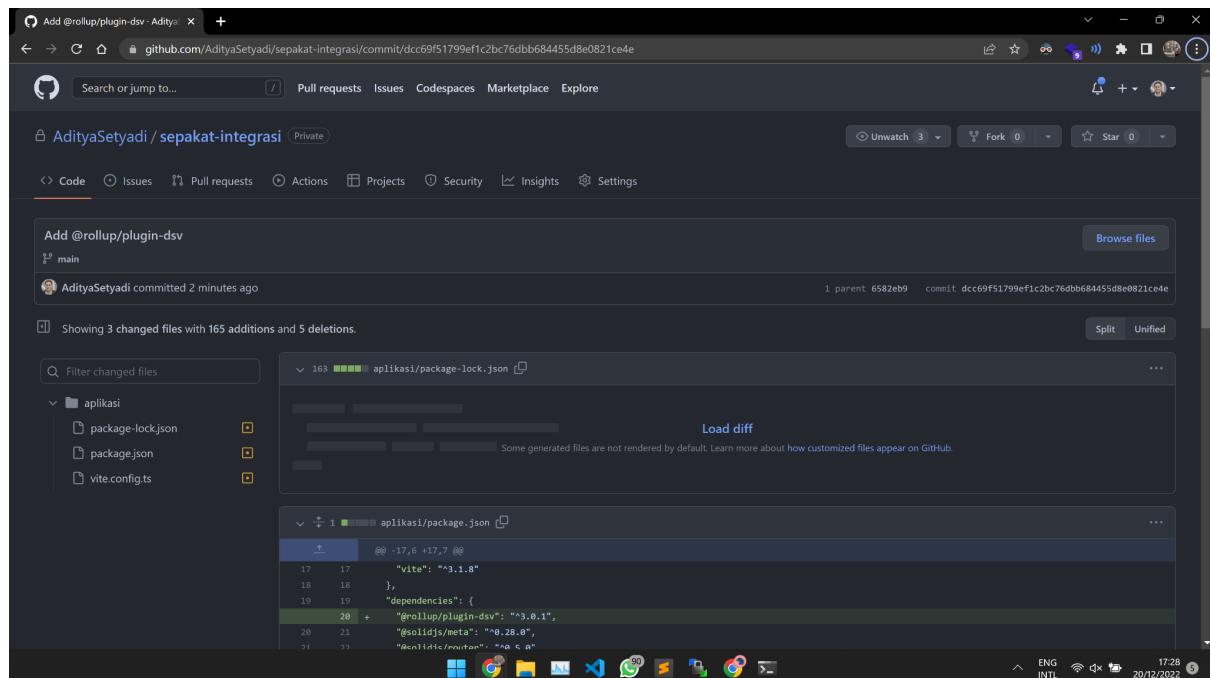
2. Add library datatables dan chart.js untuk melakukan olah tabel dan grafik

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/dcc69f51799ef1c2bc76dbb684455d8e0821ce4e>



3. Add plulgin @rollup/dsv untuk membaca file CSV

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/dcc69f51799ef1c2bc76dbb684455d8e0821ce4e>



4. Add dummy dashboard

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/73a945959a67a35d2e0b0689a37853d984f0517c>

The screenshot shows a GitHub commit page for the repository 'AdityaSetyadi/sepakat-integrasi'. The commit message is 'Add dummy dashboard'. It has 1 parent commit, 'dcc69f5', and a commit hash of '73a945959a67a35d2e0b0689a37853d984f0517c'. The file 'index.tsx' was modified, showing 165 additions and 26 deletions. The code changes are as follows:

```
diff --git a/src/routes/index.tsx b/src/routes/index.tsx
@@ -1,31 +1,170 @@
1 - import { A } from "solid-start";
2 - import Counter from "~/components/Counter";
1 + import { createEffect } from "solid-js";
2 + import Chart from 'chart.js/auto';
3 -
4 - export default function Home() {
5 +
6 +   createEffect( () => {
7 +
8 +
9 +     //DUPLIKASI
10 +     const labelDuplicasi = [
11 +       'Rgsosok',
12 +       'DTKS',
13 +       'P3KE',
14 +     ];
15 +   });
16 + }
```

5. Mengupload data hasil analisis pasangan nik

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/f66b5a21d466e74cef67fe07c5183557efbd968b>

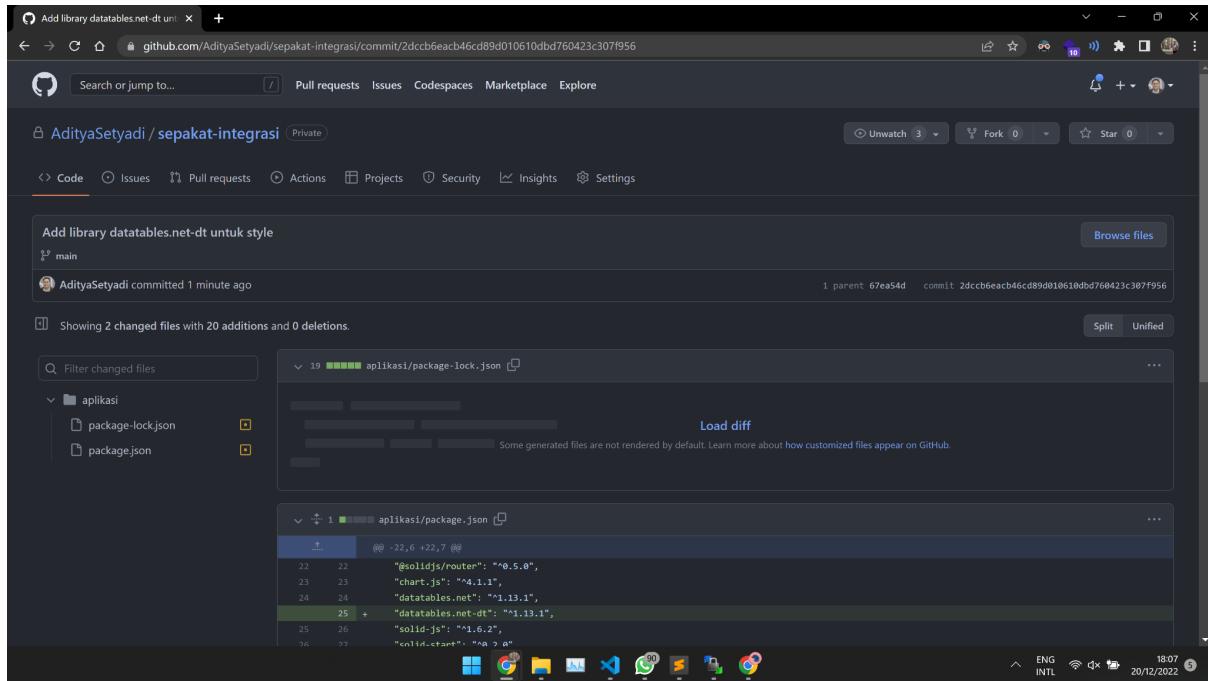
The screenshot shows a GitHub commit page for the repository 'AdityaSetyadi/sepakat-integrasi'. The commit message is 'Mengupload data hasil analisis pasangan nik'. It has 1 parent commit, 'dcc69f5', and a commit hash of 'f66b5a21d466e74cef67fe07c5183557efbd968b'. The file 'skor_pasangan_nik.csv' was modified, showing 14,309 additions and 0 deletions. The code changes are as follows:

```
diff --git a/src/data_analisis/skor_pasangan_nik.csv b/src/data_analisis/skor_pasangan_nik.csv
@@ -1,309 +1,309 @@
```

Below the code diff, there is a comment section for the commit 'f66b5a21d466e74cef67fe07c5183557efbd968b'. The comment area includes fields for 'Write' and 'Preview', a text input for 'Leave a comment', and a file upload area for 'Attach files by dragging & dropping, selecting or pasting them.' A green button at the bottom right says 'Comment on this commit'.

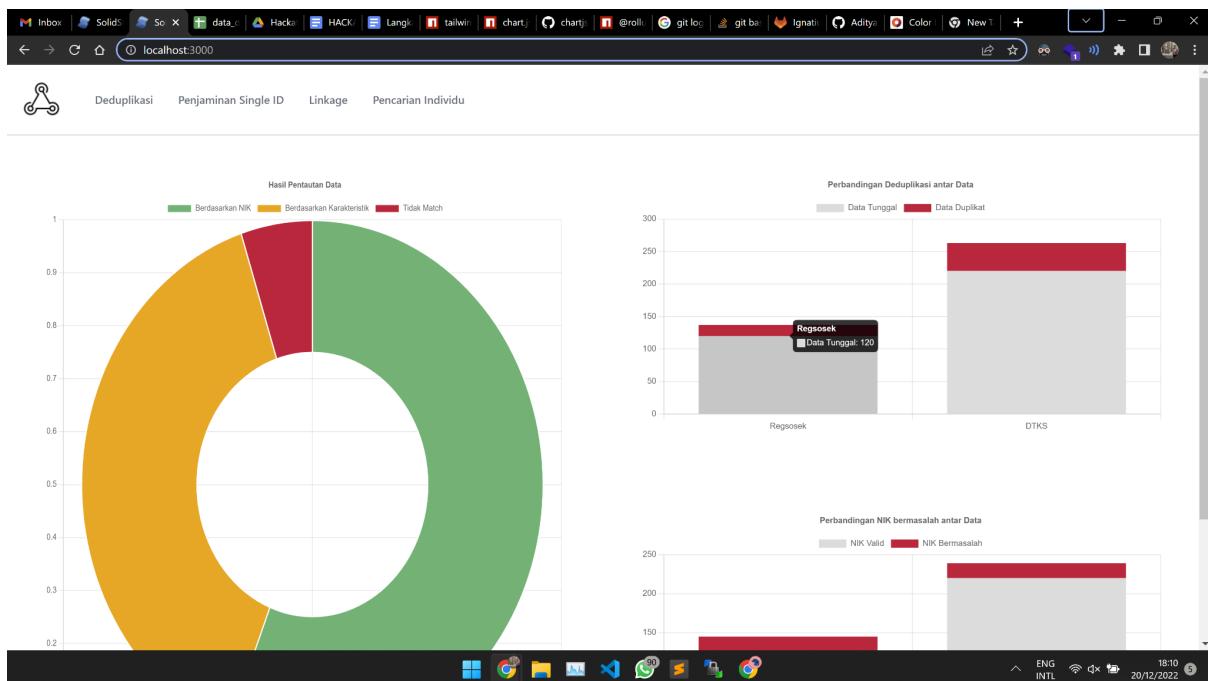
6. Add library datatables.net-dt untuk style

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/2dccb6eacb46cd89d010610dbd760423c307f956>



7. Update dummy dashboard

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/a23591132deebd669ce0f90e53d4c20f4159d0a4>



8. Menambahkan menu Single Id

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/dfa170c3edb3557759f279a969b223187f3998f3>

Wilayah Regsosok	NIK Regsosok	Nama Regsosok	Nama KK Regsosok	Jenis Kelamin Regsosok	Umur Regsosok	Wilayah DTKS	NIK DTKS	Nama DTKS	Nama KK DTKS	Jenis Kelamin DTKS	Umur DTKS	Score Kemiripan
1	9907035205990000	nasip br bangun	nasip br bangun	wanita	76	1	9907035205990000	piahmalem br tarigan	adil bangun	wanita	55	87.17
1	9907035205990000	piah malem br trg	adil bangun	wanita	52	1	9907035205990000	nasip br bangun	nasip br bangun	wanita	76	90.34
1	9907035012990000	tabita br barus	dewanta chandra trg	wanita	31	1	9907035012990000	rehgenana br barus	rehgenana br barus	wanita	64	93.37
1	9907034805990000	likaryana br bukit	riyo prema ginting	wanita	22	1	9907034805990000	rasinta br ginting	merai bangun	wanita	57	5.61
1	9907036904990000	eninta br purba	jesuka purba	wanita	17	1	9907036904990000	akhya ananta purba	akhya ananta purba	pria	25	5.27
1	9907036612990000	destalia br barus	destalia br barus	wanita	31	1	9907036612990000	medsen lisna	dorkasta barus	wanita	39	96.35
1	9907034107990000	metek purba	terus tarigan	wanita	76	1	9907034107990000	rulau kelat	rulau kelat	wanita	64	3.37
1	9907034201990000	jesika asvirensya	jesika asvirensya	wanita	21	1	9907034201990000	sehat br barus	sehat br barus	wanita	65	3.35
1	9907031010990000	laspen tarigan	laspen tarigan	pria	69	1	9907031010990000	ngekek ginting	ngekek ginting	pria	64	3.23
1	9907051503990000	adisahputra	adisahputra	pria	32	3	9907051503990000	bira bars	bira bars	pria	35	2.22

9. Pembaruan header aktif

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/30faaca6dd7e3293e7ae4c8b6bc25b3d57550f96>

```
diff --git a/aplikasi/src/root.tsx b/aplikasi/src/root.tsx
@@ -19,8 +19,8 @@ export default function Root() {
 19   const location = useLocation();
 20   const active = (path: string) =>
 21     path == location.pathname
 22   - ? "hover:text-[#4840FF] dark:hover:text-sky-400"
 23   - : "text-sky-200"
 22   + ? "text-[#4840FF]"
 23   + : "text-gray-800"
 24   return (
 25     <html lang="en">
 26       <Head>
```

10. Pembuatan detail view datatable

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/8cba2baae64c931a06f183c94ea1ed38dfd2cc42>

The screenshot shows a web application interface. At the top, there are several tabs and a navigation bar with links like 'Deduplikasi', 'Penjaminan Single ID', 'Linkage', and 'Pencarian Individu'. Below this is a search bar labeled 'Pilih Survey' and a dropdown menu set to 'Show 10 entries'. A large table with 12 columns is displayed, with the first row colored green. The columns represent various demographic and survey-related fields. One row is highlighted in red, showing a full name 'rony rianda suhendi' and a score of '49.84'. Below the table, there are input fields for 'Full name:' and 'Extension number:', followed by a note 'Extra info: And any further details here (images etc)...'. A second table below contains five rows of data with columns for age, ID number, name, gender, and other details, along with their respective scores.

Wilayah Regsosok	NIK Regsosok	Nama Regsosok	Nama KK Regsosok	Jenis Kelamin Regsosok	Umur Regsosok	Wilayah DTKS	NIK DTKS	Nama DTKS	Nama KK DTKS	Jenis Kelamin DTKS	Umur DTKS	Score Kemiripa
5	9907080808990000	rony rianda suhendi	rony rianda suhendi	pria	40	5	9907080808990000	subhana	subhana	pria	60	49.84
24	9908190107990120	muh haris	muh haris	pria	71	24	9908190107990120	sudding	sudding	pria	71	49.83
10	9903203112990090	selamet riadi	selamet riadi	pria	34	10	9903203112990090	sekandar	sekandar	pria	37	49.81
33	9971055712990000	dessy pattimahu	johanis pattimahu	wanita	13	33	9971055712990000	chevryl defretes	david defretes	wanita	13	50.59
26	9908220107990070	cobba	cobba	pria	51	26	9908220107990070	muh ilyas	muh ilyas	pria	51	49.23
23	9908274107990030	andi faisal	faisal	wanita	28	23	9908274107990030	tutianti	taba	wanita	27	50.92

11. Modifikasi single id

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/87ef5d99bef5e6be4e296ed3165074371f4502fd>

The screenshot shows a GitHub repository page for 'Modifikasi single id'. It displays a diff of a file named 'singleid.tsx'. The changes are as follows:

```
diff --git a/aplikasi/src/routes/singleid.tsx b/aplikasi/src/routes/singleid.tsx
--- a/aplikasi/src/routes/singleid.tsx
+++ b/aplikasi/src/routes/singleid.tsx
@@ -76,7 +76,23 @@ export default function Home() {
 76   // options
 77   retrieve: true,
 78   paging: true,
- 79   data: data,
+ 79   data: data,
+ 80   columnDefs: [
 81     {width: "5%", target: 0},
 82     {width: "5%", target: 1},
 83     {width: "5%", target: 2},
 84     {width: "15%", target: 3},
 85     {width: "10%", target: 4},
 86     {width: "5%", target: 5},
 87     {width: "5%", target: 6},
 88     {width: "5%", target: 7},
 89     {width: "15%", target: 8},
 90     {width: "10%", target: 9},
 91     {width: "5%", target: 10},
 92     {width: "5%", target: 11},
 93     {width: "5%", target: 12},
 94     {width: "5%", target: 13},
 95   ],
 80   columns: [
 81     {
 82       className: "dt-control",
 83     },
@@ -105,28 +121,6 @@ export default function Home() {
 84   }
 85 }
```

12. Modifikasi single id dengan data yang baru

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/9be5e38852ce677bc7b9f1c912285814ce0e29c7>

The screenshot shows a web application interface with a search bar at the top containing the text "Search: abd rahman makatita". Below the search bar is a table with the following columns: Wilayah Regsosok, NIK Regsosok, Nama Regsosok, Nama KK Regsosok, Jenis Kelamin Regsosok, Umur Regsosok, Wilayah DTKS, NIK DTKS, Nama DTKS, Nama KK DTKS, Jenis Kelamin DTKS, Umur DTKS, and Score Kemiripan. The table displays five entries, each with a red circular icon and a green background row. The first entry shows a score of 63.94, the second 0.96, the third 0.88, the fourth 0.58, and the fifth 0.50. Below the table, there are several rows of text indicating recommendations for individuals like "Rekomendasi Individu: Tidak Ditemukan", "Rekomendasi Individu: riyanti makatita", "Rekomendasi Individu: abd rahman", "Rekomendasi Individu: salama makatita", and "Rekomendasi Individu: mujna makatita". At the bottom of the screen, a Windows taskbar is visible with various icons and a weather widget showing 28°C.

13. Update redaksi subtitle

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/d3c764c095cd57187ed19e80d667c340c27c379e>

The screenshot shows a GitHub commit page for the file "Update redaksi subtitle - Aditya". The commit message is "Update redaksi subtitle". The diff view highlights changes in the code, specifically in the "Home" component. The changes involve adding and removing subtitle properties and their values. The code snippet shows the following additions and deletions:

```
@@ -112,7 +112,7 @@ export default function Home() {
  },
  subtitle: {
    display: true,
-   text: 'Hasil Perbandingan antara Data Tunggal dan Duplikat',
+   text: 'Hasil perbandingan antara Data Tunggal dan Duplikat',
  },
  color: 'Dimgray',
  font: {
    size: 16,
  }
}
@@ -182,7 +182,7 @@ export default function Home() {
  },
  subtitle: {
    display: true,
-   text: 'NIK Bermasalah diantaranya adalah',
+   text: 'NIK Bermasalah adalah NIK yang digunakan dua atau lebih orang berbeda, dan konsisten disetiap data',
  },
  color: 'Dimgray',
  font: {
    size: 16,
  }
}
```

14. Add halaman individu

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/669465877a5278e87e5ea303fbf09a33fcf309eb>

Blok	ID Ruta	ID ART	Nomor KK	NIK	Nama	Nama KRT	Jenis Kelamin	Umur	Sumber
5	D114550E-9BBB-4D61-897C-1C5BDFB73DAF	4	9907081803990000	9907081803990000	hamdani vicky	masri	1	9	Regsosek
5	001059060	5	9907081803990001	9907081803990001	hamdani vicky	masri	1	9	DTKS
6	FAFE7271-D877-469B-B989-D5E9D1A3F238	0	9907022604990000	9907022604990000	hamdani	hamdani	1	30	Regsosek
6	FAFE7271-D877-469B-B989-D5E9D1A3F238	1	9907275003990000	9907275003990000	ariska fitriani	hamdani	2	25	Regsosek
6	FAFE7271-D877-469B-B989-D5E9D1A3F238	2	9907021601990000	9907021601990000	daffi risdantara	hamdani	1	4	Regsosek
6	FAFE7271-D877-469B-B989-D5E9D1A3F238	3	9907276104990000	9907276104990000	salsabila	hamdani	2	0	Regsosek
6	001012016	1	9907022604990004	9907022604990004	hamdani	hamdani	1	30	DTKS
6	001012016	2	9907275003990003	9907275003990003	ariska fitriani	hamdani	2	25	DTKS
6	001012016	3	9907271601990002	9907271601990002	daffi risdantara	hamdani	1	4	DTKS

15. Perubahan logo

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/5a2ebbb6fad16411f2cb554181c4e7d884c7dd47>

Hasil Pentalautan Data

Hasil Pentalautan Data Berdasarkan Jenis Karakteristik Matching

- Berdasarkan NIK
- Berdasarkan Karakteristik
- Tidak Match

Kategori	Persentase
Berdasarkan NIK	~0.85
Berdasarkan Karakteristik	~0.10
Tidak Match	~0.05

Perbandingan Deduplikasi antar Data

Hasil perbandingan antara Data Tunggal dan Duplikat

Kategori	Persentase
Data Tunggal	~45%
Data Duplikat	~55%

Perbandingan NIK bermasalah antar Data

NIK Bermasalah adalah NIK yang digunakan dua atau lebih orang berbeda, dan konsisten disetiap data

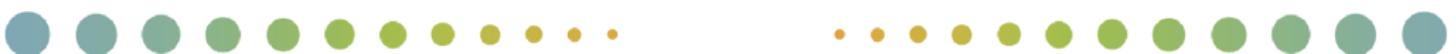
Kategori	Persentase
NIK Valid	~150
NIK Bermasalah	~250

16. Menambahkan menu deduplikasi dan linkage

<https://github.com/AdityaSetyadi/sepakat-integrasi/commit/54e428c54eaa5212e7a069f7bc168918de980111>

ID Regsosok	NIK Regsosok	Nama Regsosok	Nama KK Regsosok	Jenis Kelamin Regsosok	Umur Regsosok	ID DTKS	NIK DTKS	Nama DTKS	Nama KK DTKS	Jenis Kelamin DTKS	Umur DTKS	Score Kemiripan
0F15582C-4F40-4FC8-B185-38E04E9A64A#0	9907045707990000	roben br sembiring	roben br sembiring	wanita	62	C0366554-5AD2-477C-92F2-F7A0087DBDBB#0	9907045707990000	roben sembiring	roben sembiring	wanita	62	99.17 %
5992D9F7-FF93-4983-AEF9-70127835327#1	9907085009990000	juniati br ginting	adisahputra	wanita	28	CE5E55C6-3FFC-48D2-BB02-4E5B5172F72B#1	9907085009990000	juniati br ginting	adisahputra	wanita	28	99.50 %
5992D9F7-FF93-4983-AEF9-70127835327#3	9907035407990000	delfica vionintha	adisahputra	wanita	2	CE5E55C6-3FFC-48D2-BB02-4E5B5172F72B#3	9907035407990000	delfica vionintha	adisahputra	wanita	2	99.07 %
82CF4A53-2255-4118-94C7-599D44B9704B#4	9907051608990000	lusiyana br tarigan	sastra tarigan	wanita	10	82CF4A53-2255-4118-94C7-599D44B9704B#5	9907051608990000	lusiyana br tarigan	sastra tarigan	wanita	10	99.32 %
938B2A95-F9E0-47FF-9A36-3E130DE557B#4	9971016409990000	baiq anindya t i	I wiril isnadi	wanita	8	938B2A95-F9E0-47FF-9A36-3E130DE557B#3	9971016409990000	baiq anindya t i	I wiril isnadi	wanita	8	99.76 %

NIK Regsosok	Nama Regsosok	Nama KK Regsosok	Jenis Kelamin Regsosok	Umur Regsosok	NIK DTKS	Nama DTKS	Nama KK DTKS	Jenis Kelamin DTKS	Umur DTKS	Score Kemiripan
9999	muhhammad ihsan	muhhammad ihsan	pria	0	10000000000000000000	ihsan anggara purnama	muhammad muh	pria	8	49.29 %
9999	syarifah al attas	abdul kadir al attas	wanita	82	9907270604990000	ruby al yasmin	abdul rajab	wanita	7	3.83 %
9999	kristian de fretes	steven de fretes	pria	0	9971051706990000	robinson de fretes	robinson de fretes	pria	31	97.04 %
9999	nayara hilya s	nayara hilya s	wanita	3	9971046402990000	udyatul hilya immah	hairuman	wanita	2	97.06 %
9999	adriel pratama g	roy gio pano g	pria	0	9907041410990000	roy gio vano gurusin	roy gio vano gurusin	pria	21	98.79 %
9999	la adi	la adi	pria	48	9971053012990000	adi faturahman	adi faturahman	pria	45	99.21 %
9999	abdul kadir al attas	abdul kadir al attas	pria	32	9901152300990000	abdul kadir sameth	abdul kadir sameth	pria	35	99.27 %
9999	bilqis sameth	iqbal sameth	wanita	1	10000000000000000000	fatia sameth	abdulrahman sameth	wanita	13	99.34 %
9999	khalisa almeira	imam alisyahbana	wanita	2	9907050402990000	imam alisyahbana	imam alisyahbana	pria	30	99.37 %
9999	muhammad t ulath	muhammad t ulath	pria	22	9971122802990000	muhammad chaeriel t	muhammad ali dg nai	pria	15	99.55 %



C. Deployment ke Vercel, implementasi auto devops

<https://sepakat-integrasi.vercel.app/>

1. Konfigurasi setting root directory

Setting direktori root ke /aplikasi, sesuai repo

The screenshot shows the 'Settings' tab in the Vercel interface. Under 'General', there are sections for 'Root Directory' and 'Node.js Version'. In 'Root Directory', the path 'aplikasi' is entered into the input field. A checkbox for 'Include source files outside of the Root Directory in the Build Step' is unchecked. In 'Node.js Version', the dropdown menu shows '16.x'. Both sections have a 'Save' button at the bottom right.

2. Konfigurasi setting deploy

Setting konfigurasi deployment override output directory menjadi dist/public

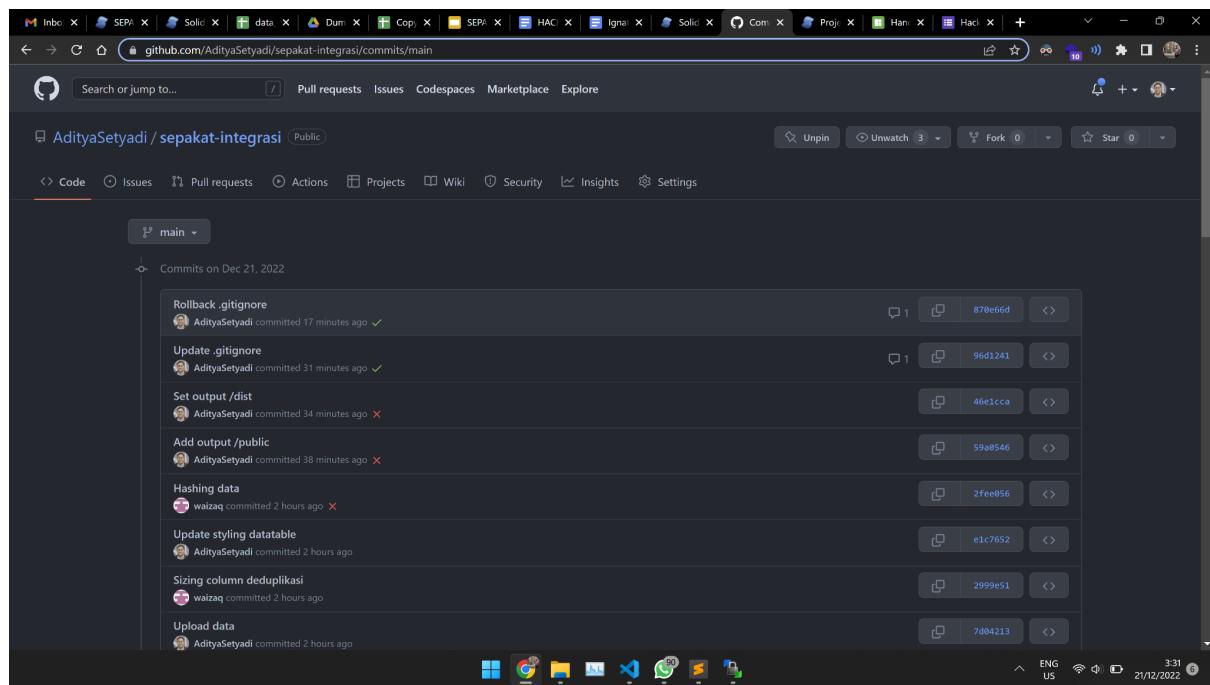
The screenshot shows the 'Settings' tab in the Vercel interface. Under 'General', there are sections for 'Build & Development Settings' and 'Root Directory'. In 'Build & Development Settings', the 'Framework Preset' is set to 'SolidStart'. The 'Output Directory' is overridden to 'dist/public/'. Other build commands like 'Install Command' and 'Development Command' are also listed with their respective override toggles. In 'Root Directory', the path 'aplikasi' is entered into the input field. Both sections have a 'Save' button at the bottom right.



3. Auto devops deployment

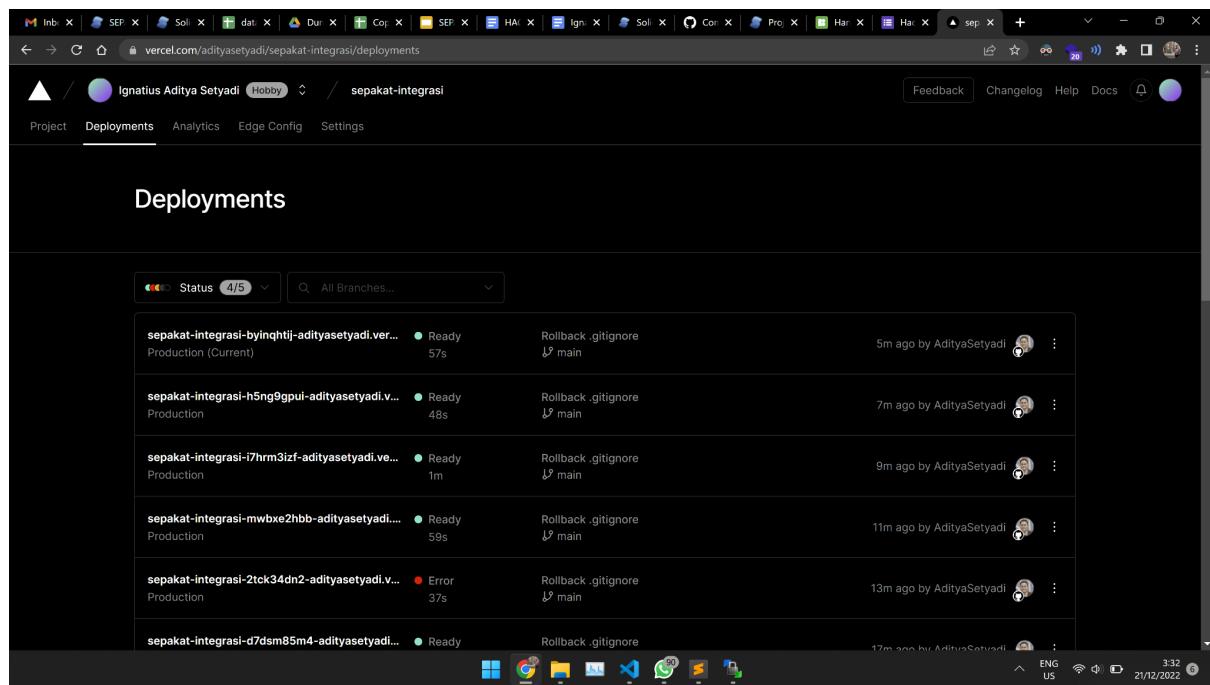
Auto devops deploy dari setiap terjadi pembaruan pada branch utama, deploy host menuju alamat berikut <https://sepakat-integrasi.vercel.app/>

Sempat terjadi beberapa kali kegagalan, namun setelah memperbaiki pengaturan yang sesuai, akhirnya aplikasi berhasil di deploy dengan baik, dan auto devops pun berjalan dengan baik.



A screenshot of a GitHub repository page for 'AdityaSetyadi / sepakat-integrasi'. The 'main' branch is selected. Below the branch dropdown, it says 'Commits on Dec 21, 2022'. A list of commits is shown, each with a green checkmark indicating success:

- Rollback .gitignore by AdityaSetyadi 17 minutes ago
- Update .gitignore by AdityaSetyadi 31 minutes ago
- Set output /dist by AdityaSetyadi 34 minutes ago
- Add output /public by AdityaSetyadi 38 minutes ago
- Hashing data by waizaq 2 hours ago
- Update styling datatable by AdityaSetyadi 2 hours ago
- Sizing column deduplikasi by waizaq 2 hours ago
- Upload data by AdityaSetyadi 2 hours ago



A screenshot of the Vercel project 'sepakat-integrasi' dashboard. The 'Deployments' tab is active. It shows a table of deployment logs:

Status	Branch	Deployment ID	Time Ago	Author	More
Ready	Production (Current)	Rollback .gitignore ↳ main	5m ago	AdityaSetyadi	⋮
Ready	Production	Rollback .gitignore ↳ main	7m ago	AdityaSetyadi	⋮
Ready	Production	Rollback .gitignore ↳ main	9m ago	AdityaSetyadi	⋮
Ready	Production	Rollback .gitignore ↳ main	11m ago	AdityaSetyadi	⋮
Error	Production	Rollback .gitignore ↳ main	13m ago	AdityaSetyadi	⋮
Ready	sepakat-integrasi-d7dsm85m4-adityasetyadi...	Rollback .gitignore	17m ago	AdityaSetyadi	⋮

4. Deployment berhasil

