



# Outline Pemaparan

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Isu-isu umum Mahasiswa Baru  
Pascasarjana

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Tips manajemen studi lanjut

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Tips keuangan saat studi lanjut

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S1, S2, S3, Apa bedanya?

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Tips mencari topik penelitian

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# Isu-Isu Umum Mahasiswa Baru Pascasarjana S2/S3

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Menyeimbangkan akademik dengan keluarga.

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Menyesuaikan diri dengan tuntutan kognitif yang lebih tinggi.

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Manajemen waktu: Tugas-tugas semakin kompleks

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Keuangan: Membayar kuliah sambil bekerja

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Mencari topik riset thesis/disertasi

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Menjaga motivasi dalam masa studi yang cukup lama

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Menghadapi stres

# KELUARGA, MANAJEMEN WAKTU, DAN STRESS

Membuat prioritas, rencana, dan pembagian waktu yang baik

Menjaga komunikasi dengan keluarga mengenai jadwal kuliah dan tuntutan-tuntutan kelulusan pascasarjana.

Memanfaatkan teknologi seperti zoom untuk komunikasi dengan keluarga selagi studi.

Meminta dukungan dari teman-teman, anggota keluarga, dan rekan-rekan kuliah.

Menjaga fleksibilitas: mau mengubah jadwal dan prioritas. Keluarga dan akademik sama penting nya dan berujung pada motivasi yang sama.

Menjaga mental health diri sendiri.

Meminta bantuan dari bimbingan dan konseling kampus.



# Financial saat studi pascasarjana

## Pastikan bantuan maksimal saat mulai studi:

- Tugas belajar resmi dari tempat kerja
- Beasiswa dari Pemerintah
- Beasiswa sumber lain

## Kerja paruh waktu

- Lebih baik lagi jika kerja paruh waktu yang berkaitan dengan studi S2/S3

## Berhemat

- Jaga pengeluaran saat studi lanjut
- Mengalihkan fokus hiburan menjadi fokus studi (studi yang menghibur, hehe)

## Merencanakan keuangan dengan lebih baik

## Mencari tambahan di kampus

- Kepanitian
- Abdimas
- Hibah Penelitian
- Insentif-insentif
- Sumber lain

# SADAR DAN PAHAM MENGENAI TUNTUTAN KOGNITIF S2 DAN S3

LEVEL KUALIFIKASI	KATA KUNCI KEMAMPUAN KERJA DALAM KKNi	KESETARAAN PROGRAM
9	Melakukan pendalaman dan perluasan IPTEKS baru melalui riset, menyelesaikan masalah dengan pendekatan multi atau transdisiplin	Doktor
8	Mengembangkan IPTEKS melalui riset, inovasi dan teruji, menyelesaikan masalah dengan pendekatan inter/multi disiplin	Magister
7	Mengelola sumber daya, mengevaluasi secara komprehensif untuk pengembangan strategis organisasi, menyelesaikan masalah dengan pendekatan monodisiplin.	Profesi
6	Mengaplikasikan, mengkaji, membuat desain, memanfaatkan IPTEKS dalam menyelesaikan masalah prosedural.	Sarjana
5	<b>Menyelesaikan pekerjaan berlingkup luas, memilih berbagai metode, memformulasi penyelesaian masalah prosedural.</b>	Diploma 3
4	Menyelesaikan tugas berlingkup luas dan kasus spesifik, memilih metode baku, menyelaraskan masalah faktual	Diploma 2
3	Melaksanakan serangkaian tugas spesifik, menyelesaikan masalah yang lazim.	Diploma 1

# Bloom Taxonomy:

## Level kognitif sesuai strata pendidikan

Remember (SD)	Understand (SMA)	Apply (D3)	Analyze (S1)	Synthesize (S2)	Evaluate (S3)
<ul style="list-style-type: none"><li>• Copy</li><li>• Google</li><li>• Repeat</li></ul>	<ul style="list-style-type: none"><li>• Tweet</li><li>• Summarize</li><li>• Explain</li></ul>	<ul style="list-style-type: none"><li>• Use</li><li>• Implement</li><li>• Execute</li></ul>	<ul style="list-style-type: none"><li>• Compare</li><li>• Examine</li><li>• Test</li></ul>	<ul style="list-style-type: none"><li>• Plan</li><li>• Manage</li><li>• Hypothesize</li></ul>	<ul style="list-style-type: none"><li>• Judge</li><li>• Review</li><li>• Decide</li></ul>

- S2: Synthesis
  - Melakukan riset
  - Membuat hipotesis
  - Menentukan metode riset berdasarkan Topik
  - Membuat publikasi konferensi

- S3: Evaluasi
  - Membuat peta studi literatur
  - Menentukan research opportunities
  - Membuat metode novel
  - Memberikan kontribusi penelitian signifikan
  - Membuat publikasi jurnal

# Mencari topik riset untuk thesis S2



Meneruskan topik tugas akhir s1



Studi kasus dari tempat kerja



Topik riset dari pembimbing akademik



Membaca survey paper, systematic literature study, atau paper review terkait topik yang diminati

# Contoh Peluang Riset dari Survey Paper

## AMMUS : A Survey of Transformer-based Pretrained Models in Natural Language Processing

Katikapalli Subramanyam Kalyan, Ajit Rajasekharan, and Sivanesan Sangeetha

**Abstract**—Transformer-based pretrained language models (T-PTLMs) have achieved great success in almost every NLP task. The evolution of these models started with GPT and BERT. These models are built on the top of transformers, self-supervised learning and transfer learning. Transformer-based PTLMs learn universal language representations from large volumes of text data using self-supervised learning and transfer this knowledge to downstream tasks. These models provide good background knowledge to downstream tasks which avoids training of downstream models from scratch. In this comprehensive survey paper, we initially give a brief overview of self-supervised learning. Next, we explain various core concepts like pretraining, pretraining methods, pretraining tasks, embeddings and downstream adaptation methods. Next, we present a new taxonomy of T-PTLMs and then give brief overview of various benchmarks including both intrinsic and extrinsic. We present a summary of various useful libraries to work with T-PTLMs. Finally, we highlight some of the future research directions which will further improve these models. We strongly believe that this comprehensive survey paper will serve as a good reference to learn the core concepts as well as to stay updated with the recent happenings in T-PTLMs. The list of T-PTLMs along with links is available at <https://arxiv.org/abs/2011.05142>

**Index Terms**—Self-Supervised Learning, Transformers, Pretrained Language Models, Survey.

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Preprint under review - The paper is named (AMMUS - AMMU Smiles) in the memory of one of the close friends of K.S.Kalyan (<https://mr-nlp.github.io>)

1. Judul Survey Paper Sesuai Minat Riset

2. Cari Bab Future Works/ Research Challenges/ Research Opportunities

## 8 DISCUSSIONS AND FUTURE DIRECTIONS

### 8.1 Better Pretraining Methods

It is highly expensive to pretrain a model especially large-scale models with billions or trillions of parameters using SSL only. Novel pretrained methods like Knowledge Inherited Pretraining (KIPT) involve both SSL and Knowledge Distillation [72]. SSL allows the model to learn the knowledge available in pretraining corpus while KD allows the model to learn the knowledge already encoded in existing pretrained models. Due to the additional knowledge gained by the model during pretraining through KD, a) the model converges faster and hence reduces the pretraining time b) the model performs better in downstream tasks compared to the models pretrained using SSL only [72]. The research community must focus more on developing better pretraining methods like KIPT which allow the model to gain more knowledge as well as reduce the pretraining time.

### 8.2 Sample Efficient Pretraining Tasks

A pretraining task is sample efficient if it makes maximum out of each train instance i.e., it should be defined over all the tokens in the training instance. Sample efficient pretraining tasks make pretraining more compute

### 8.4 Better Position Encoding Mechanisms

The self-attention mechanism is permutation invariant without position bias. The position bias can be provided using absolute or relative position embeddings. Moreover, absolute position embeddings can be predetermined or learned. However, there are drawbacks to both these approaches [288]. Absolute position embeddings suffer from generalization issues but are easy to implement. Unlike absolute positions, relative position embeddings are robust to sequence length changes but difficult to implement and yield less performance. There is a great need for more novel position encoding mechanisms like CAPE [288] which combines the advantages in both absolute and relative position embeddings.

### 8.5 Improving existing T-PTLMs

T-PTLMs like BERT and RoBERTa have achieved good results in many of the NLP tasks. Recent research works showed that these models can be further improved by injecting sentence-level semantics through continual pretraining based on adversarial [55] or contrastive pretraining tasks [157], [160]. For example, Panda et al. [55] showed that continual pretraining using shuffled token detection objective improves RoBERTa model performance in GLUE tasks by allowing the model to

3. Contoh peluang riset

# Mencari Topik Riset untuk S3

## Memilih topik awal

- Berdasarkan riset terdahulu
- Berdasarkan riset calon promotor
- Sumber-sumber lain yang diminati



## Melakukan Survey Paper

- Scraping paper sesuai topik
- Filtering berdasarkan:
  - Judul
  - Abstrak
  - Keywords
- Membuat demographic penelitian
- Membuat mind-map penelitian
- Menentukan paper state-of-the art (SOTA)
- Mendefinisikan research gap

# Tools dan Website yang Bermanfaat dalam Membuat Survey Paper

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## Scraping

- Publish or Perish (PoP)
- Google Scholar
- NLTK (Python)

## Demographics

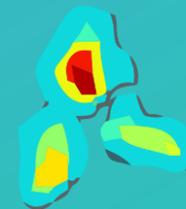
- VoS Viewer
- app.dimensions.ai
- Visio
- Matplotlib (Python)

## Reference Tools

- Zotero

## Word Processor

- Overleaf (Latex)





**TERIMA  
KASIH**

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