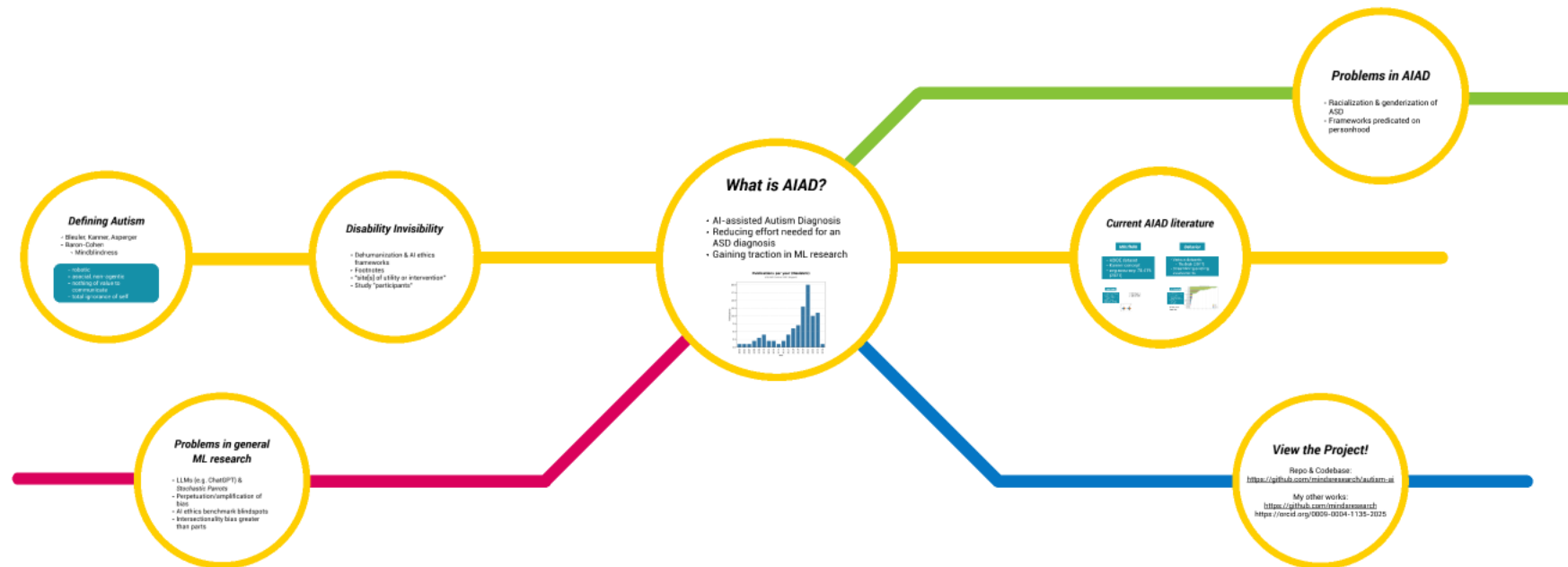


On the Dangers of AI Autism Diagnosis

Noah Duggan Erickson
ICDS Scholars Week 2024

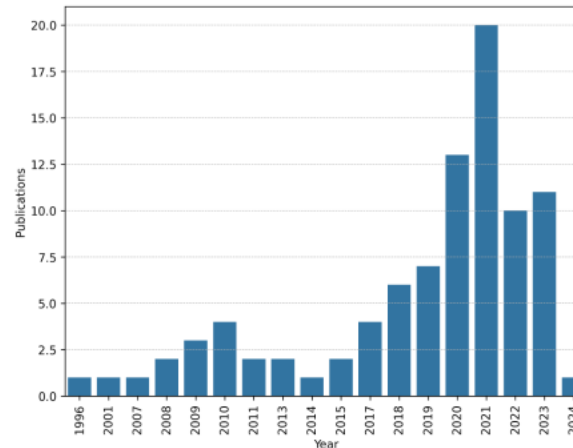


What is AIAD?

- AI-assisted Autism Diagnosis
- Reducing effort needed for an ASD diagnosis
- Gaining traction in ML research

Publications per year (NexisUni)

(AI) AND (Autism) AND (diagno*)





Problems in general ML research

- LLMs (e.g. ChatGPT) & *Stochastic Parrots*
- Perpetuation/amplification of bias
- AI ethics benchmark blindspots
- Intersectionality bias greater than parts



Disability Invisibility

- Dehumanization & AI ethics frameworks
- Footnotes
- "site[s] of utility or intervention"
- Study "participants"

Defining Autism

- Bleuler, Kanner, Asperger
- Baron-Cohen
 - Mindblindness

- robotic
- asocial, non-agentic
- nothing of value to communicate
- total ignorance of self

Current AIAD literature

MRI/fMRI

- ABIDE dataset
- Kanner concept
- avg accuracy: 78.41% (2021)

CNN Model

Standard model family for Cy
Modified version of Abhari &
Alzahrani (11/2022)
• Preprocessing built-in to
dataset
Model significantly
underpowered - additional
preprocessing in missing?



TODO: Create
graph of CNN

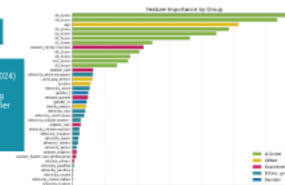
Behavior

- Various datasets
 - Thabtah (2017)
- Streamlining existing assessments

RF Classifier

Modified version of
Shreevastava et al. (Mar. 2024)
to reduce overfit
• RNN inputter & scaling
• Random forest classifier
Accuracies:
• Train: 100%
• Dev: 94.9%
• Test: 94.4%

TODO: Add
data cite



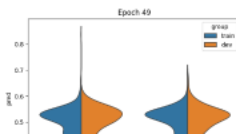
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CNN Model

- Standard model family for CV
- Modified version of Alharthi & Alzahrani (11/2023)
 - Preprocessing built-in to dataset
- Model significantly underpowered - additional preprocessing I'm missing?

TODO: Create graph of CNN



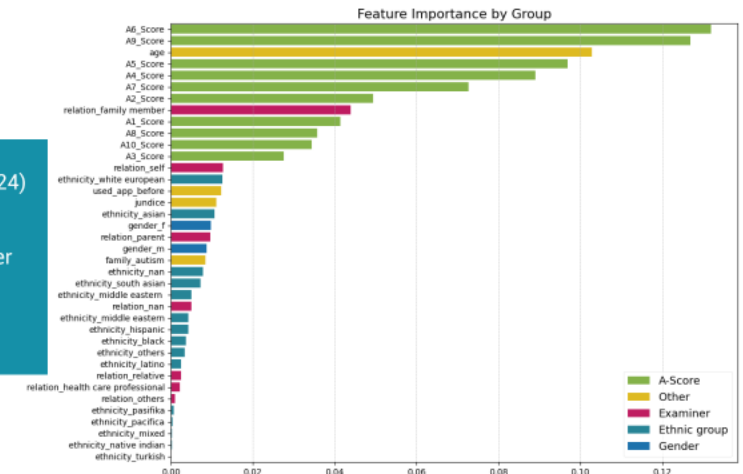
Behavior

- Various datasets
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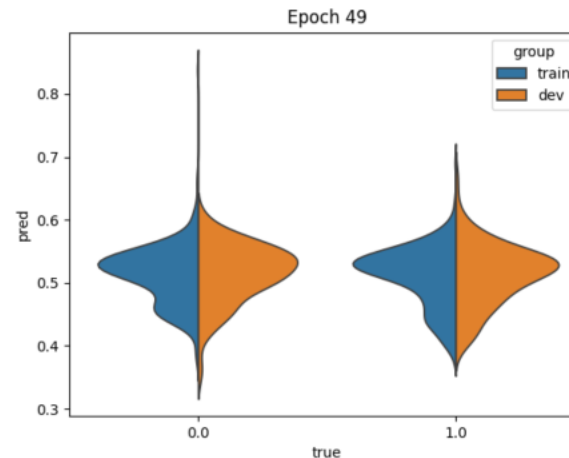
TODO: Add



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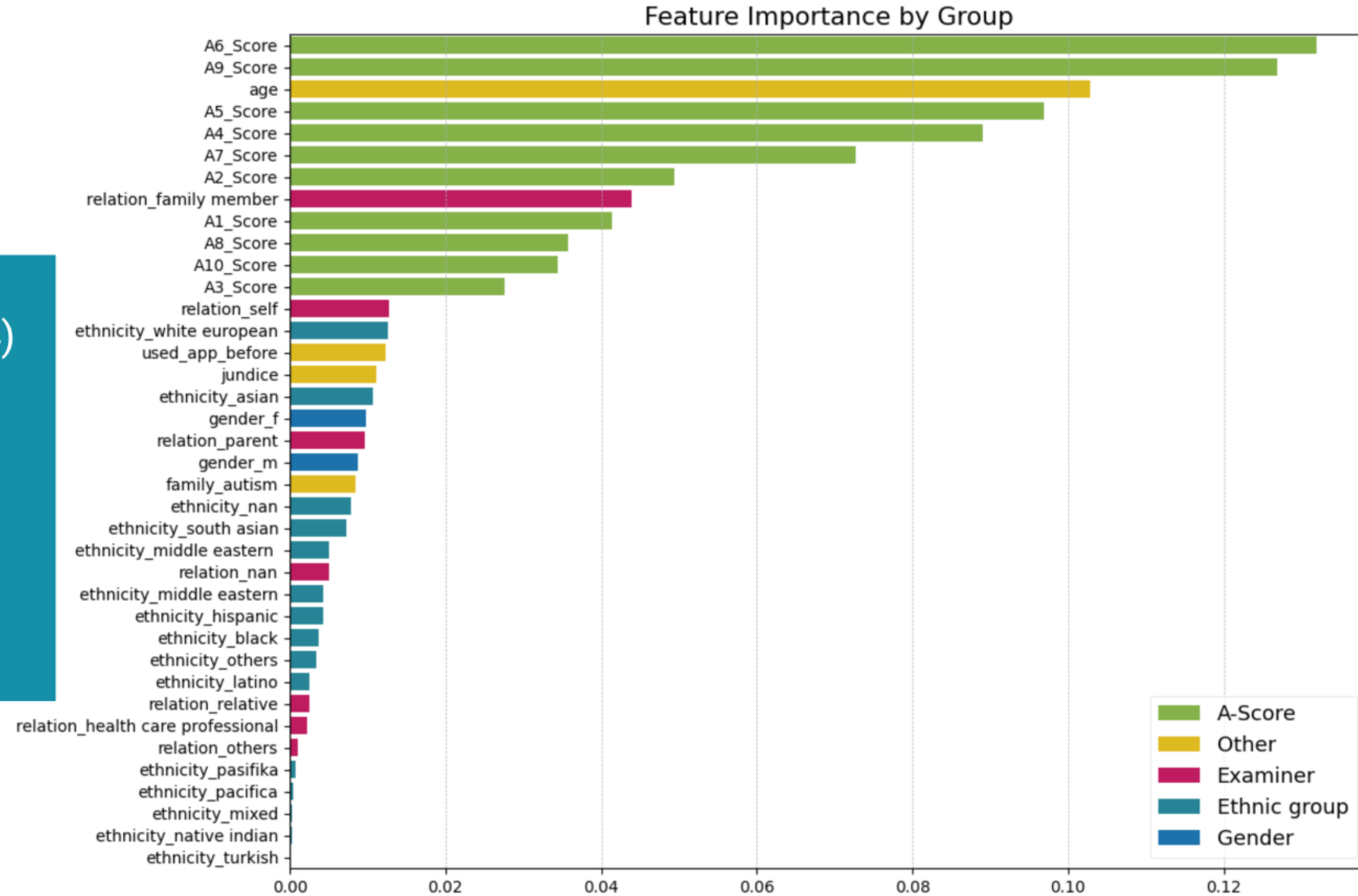
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TODO: Add
data cite





Problems in AIAD

- Racialization & genderization of ASD
- Frameworks predicated on personhood

View the Project!

Repo & Codebase:

<https://github.com/mindsresearch/autism-ai>

My other works:

<https://github.com/mindsresearch>

<https://orcid.org/0009-0004-1135-2025>

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