Prediction: Where to Go Next?
Future Research Directions

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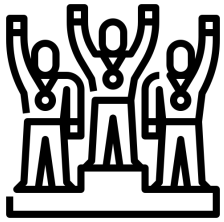
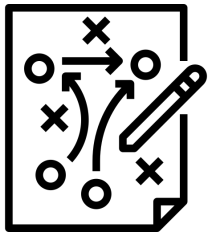
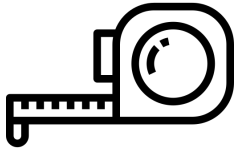


Public Benchmark?

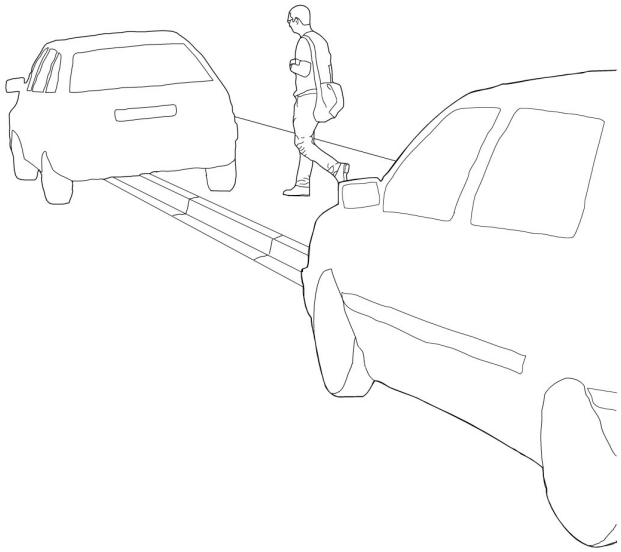


Algorithms?

Dataset?



Metrics?



Icons from https://www.flaticon.com/authors/monkik

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We Need a Public Benchmark!

Public Benchmarks have driven the community [1,2,3,4,5]

Given the data and infrastructure, a prediction benchmark is easy to build!

But:
- Data?
- GDPR?
- Metrics?

The one who builds it gets to decide!

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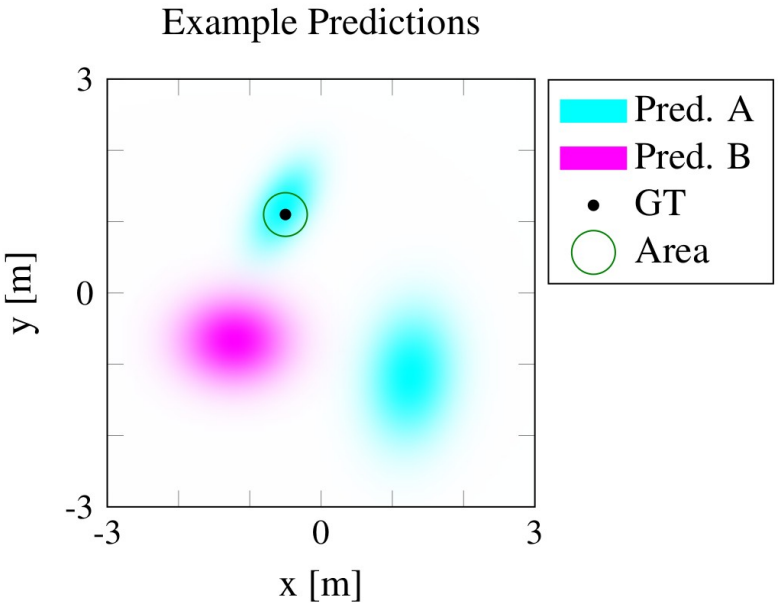
We Need Unified Metrics!

Some metrics evaluated for a toy prediction



Metric	Pred. A	Pred. B
Pred. Prob.	**5.8%**	0.0%
Log. Pred. Prob.	**-2.9**	-12.7
Dist.	2.9m	**1.9m**
AuROC	0.1%	**1.2%**
AuPR	**1.0%**	0.2%

Design of metrics put the focus on different traits.
What do you want to measure?

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We Need Good Algorithms!

Some example prediction algorithms...

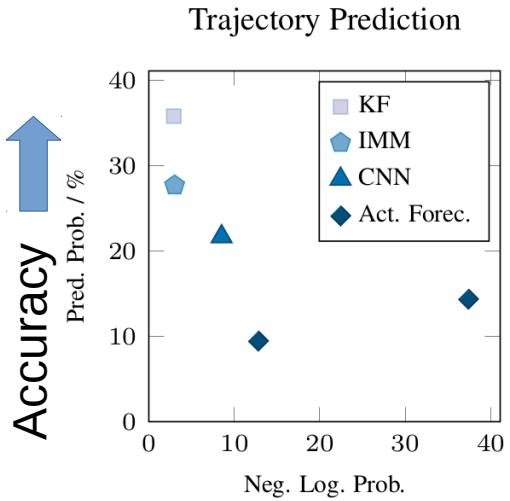
Kalman Filter [6]

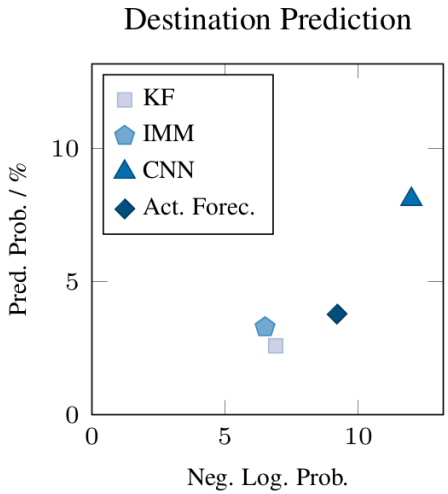
CNN [7]

Act. Forec. [8]

MDP* [9]

… and evaluations**





Safety

*evaluation work in progress
**preliminary results, data [9]

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