

# Overview

Differentiable Architecture Search (DARTS)

DARTS as Surrogate

Beyond Finite Search Spaces

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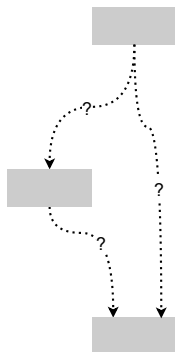
## Differentiable Architecture Search (DARTS)

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Beyond Finite Search Spaces

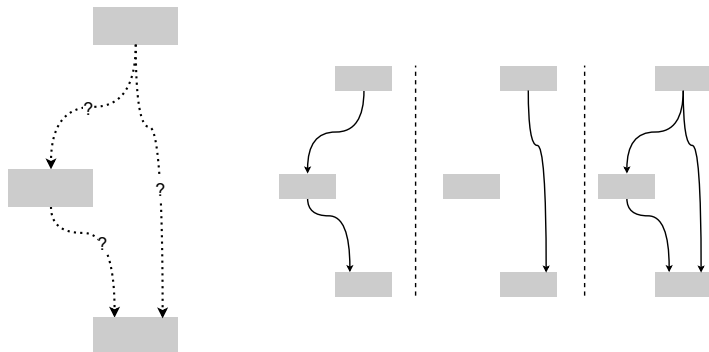
# Differentiable Architecture Search

*DARTS* [Liu et al., 2018] considered as pioneer work



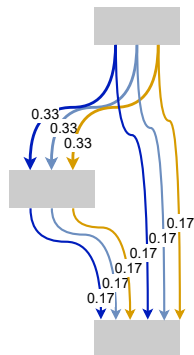
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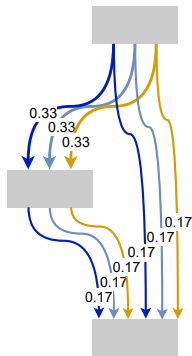
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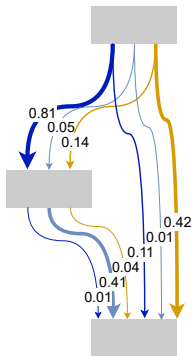


# Differentiable Architecture Search

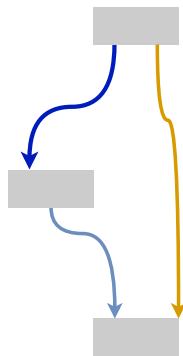
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Training start



Training end



Obtain best architecture

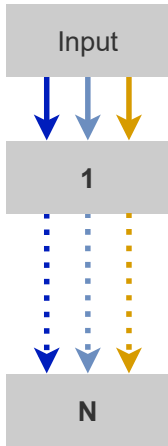
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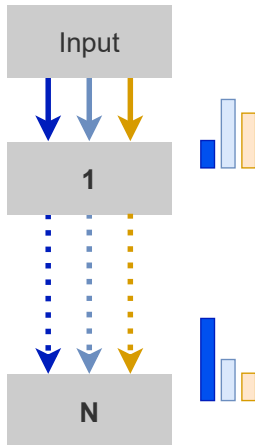
Beyond Finite Search Spaces

# Search Space

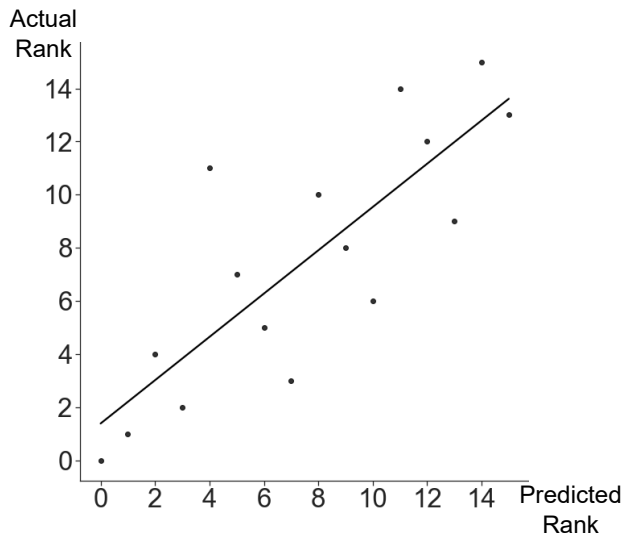




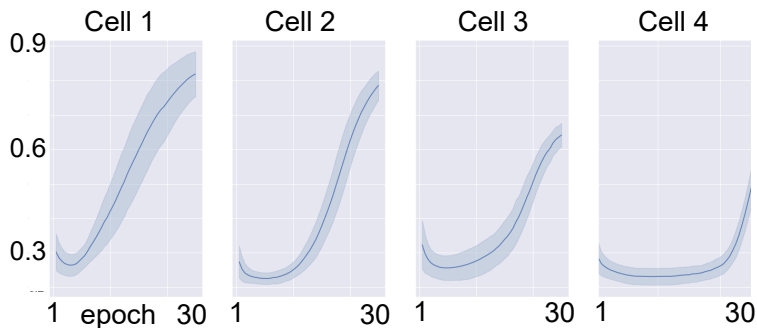
# Search Space



# DARTS Surrogate



# Architecture Plasticity



Maximum norm of architecture parameter vector per epoch per cell

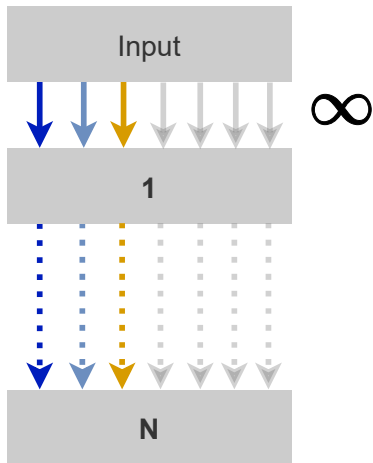
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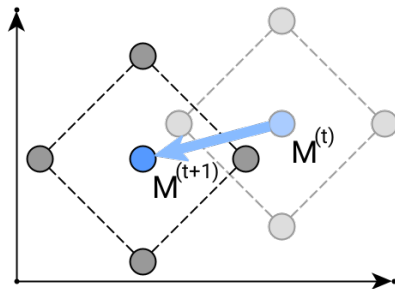
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# Search Space Extension



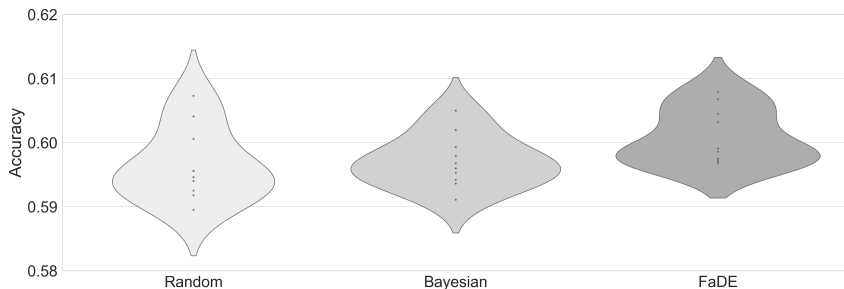
# Finite Difference Descent



2-dim euclidean search space

# Experiment Results

Top 10 architectures found by Random Search, Bayesian Search and our approach



# References

[Liu et al., 2018] Liu, H., Simonyan, K., and Yang, Y. (2018).  
Darts: Differentiable architecture search.