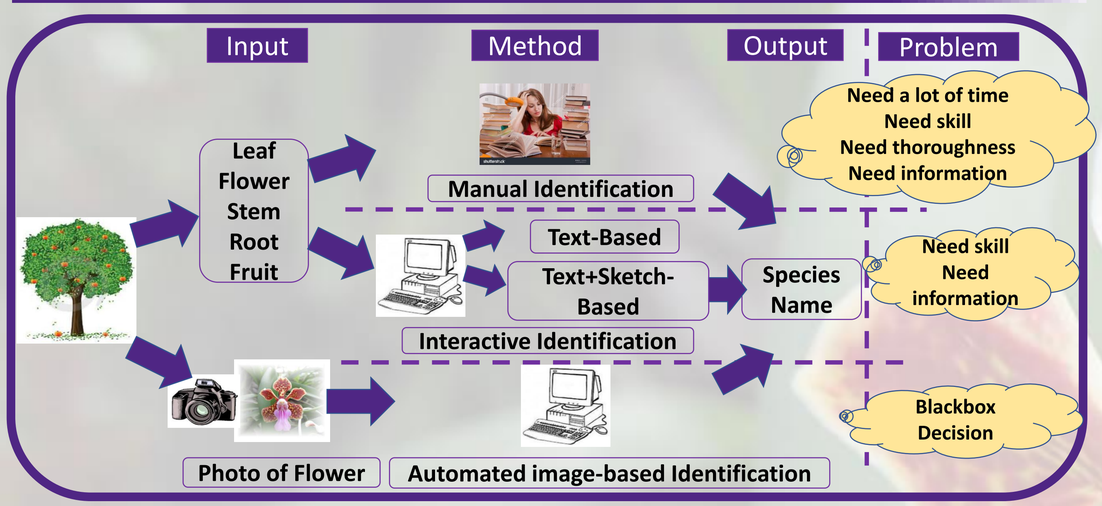
TOWARDS
EXPLAINABLE AUTOMATED FLOWER RECOGNITION SYSTEM

UNIVERSITY OF TWENTE.

BRIN
BADAN RISET DAN INOVASI NASIONAL

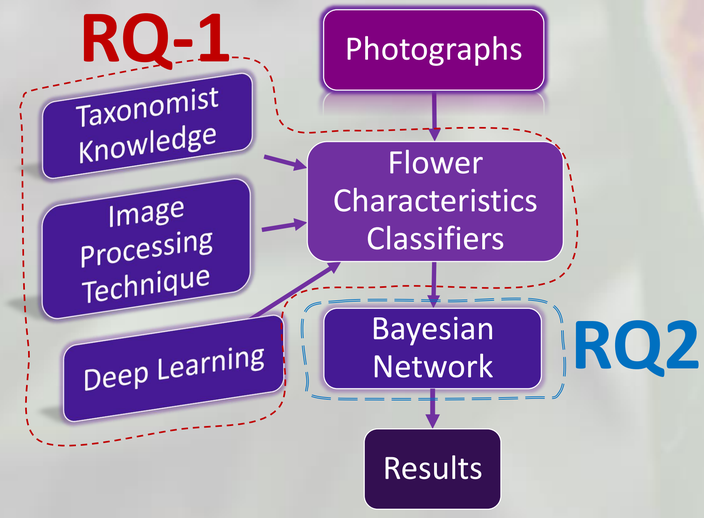
1. Existing Systems and Problems



2. Research Problems

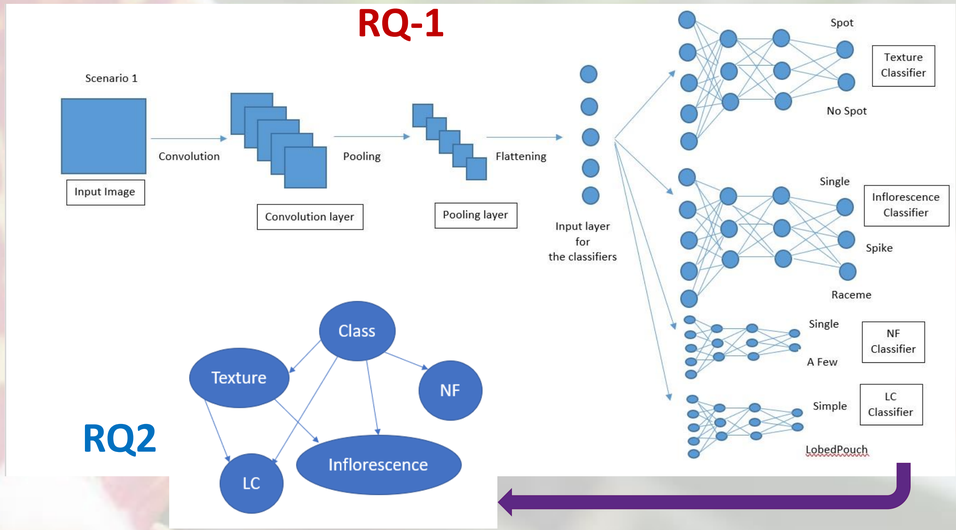
1. How to integrate taxonomist knowledge?
2. How to build an automated system that explains decision (not as Blackbox)?

3. Our Approach



4. Implementation

Dataset: 7156 Orchid flowers images, 156 species



5. Results

1. An Orchid Flowers Dataset that integrates taxonomists' knowledge has been built.
2. Classifiers built by Deep Learning can predict flower characteristics pretty well (above 80%).
3. Bayesian Networks seems promising to provide explanation for automated flower recognition system since we can track the reasons using the nodes.

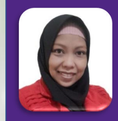
Future Work:

Handling uncertainty

6. Conclusion

1. Currently, we have been developing a new method to build an explainable automated flower recognition system using Deep Learning and a Bayesian Network.
2. The impact in science:
   - Enrich the methods in the field of Explainable AI.
   - Can help in managing biodiversity.
3. The impact in society:
   - Help taxonomists, botanists and common people to recognize plants.

Contributors:



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- In Journal

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- In Media:

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