

CONTEXTUAL TYPING

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TYPE INFERENCE AND WHAT WE BELIEVE

- Having reasonable and meaningful annotations is good.
- Local information is good.
- Having guidelines for language designers and programmers is good.
- Scalabilities are necessary.
- Implementation can be easily derived.

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- Types are propagated to neighbouring expressions;

BIDIRECTIONAL TYPING: PROBLEMS STATEMENT

- Trade-off between expressive power and backtracking;
 - more expressive, less syntax-directness;
 - all-or-nothing inference strategy;
- Unclear annotatability and rule duplication;
- Inexpressive subsumption.

BALLOON

exclaim True

exclaim :: Show a \Rightarrow a \rightarrow String
exclaim x = show x ++ "!"

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$$\rightarrow \Gamma \vdash \Sigma \Rightarrow e \Rightarrow A$$

Context: precisely captures the information of surrounding context