

Thomas Ball, Benjamin Zorn (Microsoft):
Teach Foundational Language Principles -
Industry is ready and waiting for more graduates educated in the
principles of programming languages
Communications of the ACM, 58(3), 2015

Second, would-be programmers (CS majors or non-majors) should be exposed as early as possible to functional programming languages to gain experience in the declarative programming paradigm. The value of functional/declarative language abstractions is clear: they allow programmers to do more with less and enable compilation to more efficient code across a wide range of runtime targets.

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First, computer science majors, many of whom will be the designers and implementers of next-generation systems, should get a grounding in logic, its application in design formalisms, and experience the creation and debugging of formal specifications with automated tools. . .

Anwendung funktionaler Sprachen

Facebook:

- ▶ Sigma: automatische regelbasierte Erkennung von Spam u.ä.
- ▶ wurde in Haskell neu implementiert
- ▶ verarbeitet mehr als eine Million Anfragen pro Sekunde

`https://code.facebook.com/posts/745068642270222/
fighting-spam-with-haskell/`

Anwendung logischer Sprachen

IBM:

- ▶ Watson: KI-Programm zur Beantwortung von Fragen in natürlicher Sprache
- ▶ Quizsendung Jeopardy (Feb. 2011): gewann gegen zwei menschliche Gegner
- ▶ Sprachverarbeitung mit Prolog

https://de.wikipedia.org/wiki/Watson_%28K%C3%BCnstliche_Intelligenz%29

<http://www.cs.nmsu.edu/ALP/2011/03/>

[natural-language-processing-with-prolog-in-the-ibm-watson-system](#)

Ausblick:

Weitere Veranstaltungen (M. Hanus, F. Huch):

- ▶ Funktionale Programmierung
- ▶ Deklarative Programmiersprachen
- ▶ Nebenläufige und verteilte Programmierung
- ▶ Prinzipien von Programmiersprachen
- ▶ Übersetzerbau
- ▶ Abschlussarbeiten, . . .