

# Carl J. Factora

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## Experience

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### Software Developer

New York, NY

*Droit Financial Technologies, LLC*

*Aug 2017-Present*

- Led development and maintenance of core company products in 3 engineering teams:
  - Adept team: decision engine API; managed client releases, issues and feature requests
  - DSDS team: a ground-up redesign of Adept, allowing for more nuanced and flexible queries
  - ATL team: formalizing internal data transformation
- Designed a low-latency decision engine API, *Adept*, used for financial regulation compliance:
  - Leveraged Clojure to design a REST and Java library interface
  - Refactored core decision engine data pipeline to reduce response latency by over 40%
  - Developed/created “Gnarly”, a Turing-complete language based on Groovy
  - Developed/created “Geni”, a predicate language based on first-order logic
- Formalized working practices and processes, including:
  - Project management: introduced agile/scrum practices for managing developer tasks and deliveries
  - Technical interview processes: implemented a pair-programming portion for exercising collaboration skills
  - Workflows around releases, collaboration, and code review

### Associate Instructor

Bloomington, IN

*Indiana University*

*Aug 2016-Dec 2016*

Lectured on advanced functional programming concepts and design techniques in Haskell.

## Projects

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### Project Lamp

*Interactive Online Book*

- Authored an online interactive book for teaching functional programming concepts
- Leveraged a static-site generator (Jekyll) for seamless creation of book content

### Essentials of Compilation: An Incremental Approach

*Compiler Design Textbook*

- Contributed to an open source compiler textbook by Jeremy Siek
- Used for university course material in CSCI-P423/B523.

## Education

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### The Recurse Center

New York, NY

*Hacker School*

*February 2017–May 2017*

Attended a self-directed programming retreat. Learned web development techniques, pair programming practices, and contributed to open source projects.

### Indiana University

Bloomington, IN

*Computer Science/English Literature, GPA 3.42*

*Aug 2012–May 2016*

- Instructed graduate and undergraduate CS courses
- Undergraduate CS research experience under Daniel P. Friedman

## Proficiencies

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Clojure, Racket/Scheme, Haskell, Elm, PureScript, Agda, Java, Python, C