

# Will Crichton

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## Abstract

I create systems that merge research in programming language design and high-performance computing to solve impactful problems. Currently, I'm focusing on tools to enable large-scale visual data analysis.

## Education

- 2016-now **Stanford University**, Ph.D. in Computer Science.  
Advisor: Pat Hanrahan
- 2012-16 **Carnegie Mellon University**, B.S. in Computer Science, minor in Chinese Studies.  
Advisor: Kayvon Fatahalian

## Research

- 2017-18 **Esper: Query, Analysis, and Visualization of Large Video Collections.** [GitHub](#).  
Research in progress.
- 2016-18 **Scanner: Efficient Video Analysis at Scale.** [GitHub](#). [Paper](#).  
Alex Poms, [Will Crichton](#), Pat Hanrahan, and Kayvon Fatahalian. SIGGRAPH 2018.
- 2015 **Lantern: A Query Language for Visual Concept Retrieval.** [Paper](#).  
Senior thesis, advised by Kayvon Fatahalian.

## Awards

- 2017-19 **Magic Grant** from the Brown Institute for Media Innovation for the [Esper project](#) (awarded twice).
- 2015 **Alumni Award for Undergraduate Excellence** for senior thesis at CMU.

## Teaching

- fall 2017-18 **Programming Languages (CS 242)**. Instructor, Stanford.
- spring 2017 **Computer Systems from the Ground Up (CS 107e)**. TA, Stanford.
- fall 2015 **Compiler Design (15-411)**. TA, CMU.
- spring 2015 **Parallel Computer Architecture and Programming (15-418)**. TA, CMU.
- 2014 **Parallel and Sequential Data Structures and Algorithms (15-210)**. TA, CMU.
- fall 2013-14 **Game Development on the Web** (1-unit mini course). Instructor, CMU.
- fall 2013 **Functional Programming (15-150)**. TA, CMU.

## Work

- summer 2017 **Snap, Inc.** Research intern, designed elastic video analytics system, reducing operational costs up to 10×.
- summer 2015 **Jane Street Capital.** Software engineering intern, optimized memory allocation in OCaml language runtime, refactored distributed incremental computation library.
- 2015 **Exp.ii.** Web developer, architected web front-end for education startup.
- summer 2014 **Palantir Technologies.** Software engineering intern, developed business logic engine for criminal case management system.
- summer 2013 **Tunessence.** Web developer, built interactive guitar tab learning tool for guitar learning startup.
- summer 2012 **Pioneer Hi-Bred.** Software engineer, built BI app for analysis of laboratory efficiency in Pioneer labs.
- 2010-12 **Webspec Design.** Web developer, created 30+ websites for clients across the country.