

# Joomy Korkut<sup>1</sup>

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## Research Interests

Dependent types, formal verification, proof automation, metaprogramming, compilers, type systems.

## Education

- **Princeton University**, Princeton, NJ.
  - **Ph.D.**, *Computer Science*. September 2018 - May 2024 (expected)
- **Wesleyan University**, Middletown, CT.
  - **M.A.**, *Computer Science*. September 2017 - May 2018
  - **B.A.**, *Computer Science* (with honors) and *Mathematics*. September 2013 - May 2017
- **TEV Inanc Turkes High School for Gifted Students**, Kocaeli, Turkey.
  - IB Diploma, July 2013

## Work and Research Experience

- **Software Engineering Intern**, Awake Security, Sunnyvale, CA. (July - September 2018)  
Worked on the design and implementation of a functional programming language with row polymorphism for network queries.
- **Student Leader**, Wesleyan University (Fall 2015, Spring 2018)  
Designed and taught a [course on Haskell](#) for credit, under the supervision of Prof. James Lipton.
- **Research in the Sciences Fellow**, Wesleyan University (May - August 2015, May - August 2016)  
Formalized the correctness and termination proofs of a regular expression matching algorithm using continuation passing style, [in Agda](#). Formalized the compilation of the modal logic based functional language MinML5 to JavaScript, [in Agda](#). Under the supervision of Prof. Daniel R. Licata.
- **Course Assistant**, Wesleyan University (September 2014 - May 2018)  
Graded assignments, led tutor sessions, and occasionally gave lectures for the following courses:
  - COMP 115 - How to Design Programs. (Fall 2017, Spring 2018)
  - COMP 212 - Computer Science II. (Fall 2014, Spring 2015)
  - COMP 321 - Design of Programming Languages. (Fall 2015, Fall 2016, Fall 2017 (1 lecture))
  - COMP 360-01 - Computer-Checked Programs and Proofs (Spring 2016)
  - COMP 360-02 - Automated Theorem Proving (Spring 2016 (4 lectures))
- **Web Editor**, Wesleyan Argus Newspaper, Wesleyan University (January 2014 - April 2015)  
Maintained and optimized 1k per day traffic WordPress system of the newspaper. Designed and coded a [custom WordPress theme](#).
- **Programming Specialist**, Instructional Media Services, Wesleyan University (September 2013 - May 2015)  
Developed an advanced [special events calendar](#) by myself, which is still in use.

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<sup>1</sup>Legal name: Cumhuri Korkut

## Skills

- Functional programming (Haskell, Standard ML, Agda, Idris, Coq etc.), web development (JavaScript, HTML, CSS etc.), scripting languages (Python etc.), Prolog, L<sup>A</sup>T<sub>E</sub>X
- Other: Comfortable with Unix env., NoSQL databases and Git

## Languages

- English (fluent)
- Turkish (native)
- Russian (intermediate)

## Awards

- 1st Place, WesHack 2014, Designed and coded the [front-end](#) of a [food-ordering application](#).

## Research

- *Extensible Type-Directed Editing*, with David Thrane Christiansen. TyDe'18, 2018.
- *Edit-Time Tactics in Idris*, master's thesis, 2018. Advisor: Daniel R. Licata.
- *Thinking Outside the Box: Verified Compilation of ML5 to JavaScript*, undergraduate honors thesis, 2017. Advisor: Daniel R. Licata.
- *Intrinsic Verification of a Regular Expression Matcher*, with Maksim Trifunovski and Daniel R. Licata. 2016. unpublished draft.

## Attended

- *International Conference on Functional Programming*, St. Louis, MO. (expected September 2018) with funding from Princeton
- *DeepSpec Summer School*, Princeton, NJ. (July 2018) with funding from DeepSpec
- *Principles of Programming Languages 2018*, Los Angeles, CA. (January 2018) with Programming Languages Mentoring Workshop scholarship
- *International Conference on Functional Programming*, Oxford, England. (September 2017) with funding from advisor
- *DeepSpec Summer School*, Philadelphia, PA. (July 2017)
- *Oregon Programming Languages Summer School*, Eugene, OR. (June 2017) with funding from OPLSS
- *New England Programming Languages and Systems Symposium*, Middletown, CT. (June 2015)

## Talks

- *Intro to Interactive Theorem Proving*, Graduate Student Series, Wesleyan University. (October 5th, 2017)