Joomy Korkut[1]

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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 - ongoing
- **Wesleyan University**, Middletown, CT.
  - **M.A.**, *Computer Science*. September 2017 - May 2018
  - **B.A.**, *Computer Science* (with honors) and *Mathematics*. September 2013 - May 2017

Work and Research Experience

- **Software Engineering Intern**, Awake Security, Sunnyvale, CA. (July - September 2018)
  Contributed to the design of a functional programming language with row polymorphism for network queries and its implementation in Haskell.
- **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.

[1] Legal name: Cumhur Korkut

Skills

- Functional programming (Haskell, Standard ML, Agda, Idris, Coq etc.), web development (JavaScript, HTML, CSS etc.), scripting languages (Python etc.), Prolog, LaTeX
- 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

- *SPLASH*, Boston, MA. (expected November 2018)
  as a student volunteer
- *International Conference on Functional Programming*, St. Louis, MO. (expected September 2018)
  with funding from Princeton and Licata
- *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 Licata
- *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)