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Programming Languages
Clojure
Go
Scala
Python
Swift
Java

Natural Languages
English : native
Korean : proficient
Chinese : conversat'l

David J. Lee

Education

Williams College
BA in Computer Science & Mathematics, expected June 2021.
GPA: 4.0/4.0. Recipient of James Jenkins Lowe 1937 Scholarship.
Coursework: Data Structures, Algorithm Design & Analysis, Computer Organization, Programming Languages, Functional Programming, Distributed Systems, Software Methods, Linear Algebra, Abstract Algebra, Probability, Knot Theory, Applied Real Analysis

Asia Pacific International School
Seoul, Republic of Korea, June 2016
GPA: 4.46/4.0. Valedictorian, Debate Team Captain, Model UN Club President

Experience

Williams College Computer Science Department
Research Assistant to Prof. Stephen Freund : June - August 2019

- Developed an algorithm to determine the thread-safety of concurrent code via atomicity analysis using Lipton's theory of reduction. Implemented in Scala.
- Wrote a compiler for Sink, a C-like research programming language, into Java. Wrote a test harness for compiled programs.
- Links: poster, project page.

Teaching Assistant : February 2018 – Present

- Software Methods, '20 Spring
- Programming Languages, '19 Spring & Fall
- Introduction to Computer Science, '18 Fall
- Data Structures, '18 Spring

Projects

Footprint : Go
A peer-to-peer digital contact tracing protocol that uses GPS location data in a privacy-preserving manner to warn users of potential exposure to COVID-19. Nominated for the 2020 Ward Prize.

Augmented Reality Drawing Environment : Swift
Allows users to draw three-dimensional curves and surfaces by moving their iOS devices in physical 3-space.

Firestone : Clojure
A Hearthstone game engine in Clojure consisting entirely of pure functions.

Virtual Multi-Crossing Analysis : Knot Theory Research
Implemented a graph-based algorithm in Python to conjecture an upper bound on the number of distinct virtual multi-crossings for a virtual n-crossing, ignoring symmetries.