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Programming
Languages
Clojure
Scala
Python
Swift
Java

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

Public Speaking
WSDC National
Selection, 2016:
Top 24,
Republic of Korea
National MUN, NY B
2016 (Team Korea):
Distinguished
Delegation

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, Software Methods, Linear Algebra, Abstract Algebra, 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

Augmented Reality Drawing Environment (iOS) : Swift

Allows users to draw lines and surfaces in 3D space via device motion. Written in Swift using ARKit 2. Drawn curves and surfaces remain fixed in space and can be selected by using the device to define a bounding box.

Firestone : Clojure

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

Virtual Multi-Crossing Analysis : Knot Theory Research

Implemented a graph-based counting algorithm in Python as member of knot theory research group. Used results from algorithm to conjecture an upper bound on the number of distinct virtual multi-crossings for a virtual n -crossing, ignoring symmetries.

Campus Pathfinder (iOS) : Swift

Uses a graph layover on satellite images of the Williams College campus to dynamically compute the shortest path between two buildings and generate a minimal spanning tree of paths from any source building.