

# Wode “Nimo” Ni

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## EDUCATION

### COLUMBIA UNIVERSITY

#### B.S. IN COMPUTER SCIENCE

2016.09 - present

New York, NY

Major GPA: 4.0

Cum. GPA: 3.94

Vision, Graphics Track

Tau Beta Pi

Dean's list

### DICKINSON COLLEGE

#### B.S. IN COMPUTER SCIENCE

2013.09 - 2016.05

Carlisle, PA

Major GPA: 4.0

Cum. GPA: 3.93

Departmental Honor

Dean's list

John Montgomery Scholarship

Pi Mu Epsilon

Upsilon Pi Epsilon

Alpha Lambda Delta

## COURSEWORK

Compiler

Computer Graphics

Computer Vision

Robotics

Artificial Intelligence

Operating Systems

Database Systems

Computer Networks

Programming Languages

Theory of Computation

Computer Architecture

Data Structures

## SKILLS

### PROGRAMMING

Java • C • C++ • Haskell

OCaml • SQL • Python

ΛT<sub>E</sub>X • Scheme • Common Lisp

### TOOLS

Git/GitHub • Unix • Vim

Eclipse • XCode • Visual Studio

Android Studio • Make/CMake

## LINKS

Github:// [woden](#)i

LinkedIn:// [wode](#)-ni

## RESEARCH

### PENROSE | RESEARCH AT CARNEGIE MELLON UNIVERSITY

May 2017 - August 2017 | Pittsburgh, PA

Penrose is a system that automatically visualizes mathematics. The system, comprised of two domain-specific languages, allows users to create professional diagrams by simply typing mathematical notations. I designed and implemented the Style language, and extended the Substance language to support functions and logically quantified statements. The work was presented at DSLDI 2017, co-located with SPLASH 2017. (Co-advised by Jonathan Aldrich, Keenan Crane, Joshua Sunshine, and Katherine Ye)

### CYBER AFFORDANCE VISUALIZATION IN AUGMENTED REALITY (CAVIAR) | RESEARCH AT COLUMBIA UNIVERSITY

Jan 2017 - May 2017 | New York, NY

Supervised by prof. Steven Feiner, I participated in the CAVIAR project, in which we built an AR application that visualizes cyber affordance in indoor and outdoor environments. Learned Unity and Hololens development and investigated the construction of 3D models from GIS data.

### WHITEBOARD SCANNING USING SUPER-RESOLUTION | HONORS THESIS

May 2016 | Carlisle, PA

Supervised by Prof John MacCormick(Advisor), Prof Timothy Wahls, and Prof Grant Braught, I studied an application of a super-resolution algorithm: to compute a clear, scanned output given a low-quality video of a whiteboard. The work was presented on CCSCNE 2016 conference.

## PROJECTS

### MATRIX PROCESSING LANGUAGE | DESIGNING A NEW PROGRAMMING LANGUAGE

Designed and implemented a new domain specific language that focuses on matrix computations. Using MPL, we built a simulation of Conway's Game of Life in less than 30 lines.

### RAYTRA | A RAY TRACER FROM SCRATCH

Implemented a ray tracer from scratch. This renderer employs Monte-Carlo ray tracing and scene-wide acceleration using BVH-tree. The output images have Blinn-Phong shading, reflections, refraction, and soft shadows.

## WORK

### COLUMBIA UNIVERSITY COMPUTER SCIENCE DEPARTMENT | TEACHING ASSISTANT

September 2017 – Current | New York, NY

TA for COMS 4115: Programming Languages and Translators, taught by prof. Stephen Edwards.

### DICKINSON COLLEGE COMPUTER SCIENCE DEPARTMENT | TEACHING ASSISTANT AND LAB CONSULTANT

September 2014 – May 2016 | Carlisle, PA

TA for Introduction to Java II with Prof. Timothy Wahls during Spring 2016 Semester. Held evening help room sessions to assist students with homework and projects.