

# 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

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

Summa cum laude

Dean's list every semester

John Montgomery Scholarship

Pi Mu Epsilon

Upsilon Pi Epsilon

Alpha Lambda Delta

## COURSEWORK

Compiler

Computer Graphics

Operating Systems

Advanced Programming

Database Systems

Artificial Intelligence

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 has two domain-specific languages: Substance models mathematical notations, and Style specifies the visual semantics of Substance, allowing users to visualize math using by just writing mathematical notations. I designed and implemented the Style language, and extended the Substance language to support functions and logically quantified statements. The work is in submission to DSLDI workshop, co-located with SPLASH. (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

While working as a research assistant at Computer Graphics and User Interfaces Lab (CGUI), participated in Cyber Affordance Visualization in Augmented Reality (CAVIAR) project, in which we try to build 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

### RAYTRA | PROJECT FOR COMPUTER GRAPHICS COURSE

Dec. 2016 | New York, NY

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.

### MATRIX PROCESSING LANGUAGE | IN-COURSE PROJECT

Dec. 2016 | New York, NY

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.

## WORK

### ASIAINFO | SUMMER INTERN

May 2015 | Guangzhou, China

Participated in developing a web application that manages records of servers and applications. The system utilizes Struts and Spring frameworks, MyBatis, and Oracle Database.

### 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.