

# Khoa Nguyen

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## EDUCATION

### THE COLLEGE OF WOOSTER

B.A., COMPUTER SCIENCE & MATHEMATICS

Aug 2014 - Dec 2017 | Wooster, OH  
Cumulative GPA: 3.97 / 4.0

## SKILLS

### PROGRAMMING

Over 3000 lines:  
C/C++

Over 1000 lines:

Go • R • Java • Python

Familiar:

Ruby • Haskell • Bash

• MATLAB • SQL

• git • Kali Linux • JIRA

• AWS • Google Cloud

• nmap • Metasploit

## COURSEWORK

### RELATED COURSES

Machine Intelligence + Project

Algorithm Analysis + Project

Operating Systems

Computer Networking

Software Engineering + Project

Programming Languages

Data Structures & Algorithms + Lab

Probability & Statistics I, II + Project

Advanced Linear Algebra

Real Analysis I

Functions of Complex Variables

Differential Equations

(Research/Teaching Asst & Grader)

Algorithm Analysis


User Interface Design

Linear Algebra

Data Structures & Algorithms

## LINKS

 [github.com/nguyen-khoa](https://github.com/nguyen-khoa)

 [linkedin.com/in/khoanguyen18](https://www.linkedin.com/in/khoanguyen18)

## HONOR SOCIETIES

Phi Beta Kappa

Pi Mu Epsilon (Mathematics)

## EXPERIENCE

### INTUIT, INC. | SECURITY ENGINEER INTERN - RED TEAM

May 2017 - Aug 2017 | San Diego, CA

- Building and maintaining infrastructure in Golang to automate security testing based on the Kill Chain model using different container and cloud technologies.
- Scaling the current infrastructure to handle intertwined, graph-like kill chains in addition to individual linear ones.

### WESTERN RESERVE GROUP | AMRE RESEARCH CONSULTANT

May 2016 - July 2016 | Wooster, OH

- Automated the client's data importing process of auto insurance data into Excel with Access SQL and VBA, and included an intuitive user interface.
- Trained 2 teammates inexperienced in SQL and VBA to intermediate skill level.
- Completed the project 2 weeks before the deadline.

### GOODYEAR TIRE & RUBBER | AMRE RESEARCH CONSULTANT

May 2015 - July 2015 | Wooster, OH

- Developed Automated X-ray Image Analysis Software (AXIAS), used daily by Goodyear in inspecting 12-foot-tall industrial tires, with OpenCV and Visual C++.
- Utilized hypothesis testing and visualization to help identify a tire's anomalies.
- Reduced the time for inspecting each tire by 85% to only 5-6 min.

## PROJECTS

### PREDICTING STOCK PRICES

MATH-329 Probability & Statistics II | CSCI-310 Machine Intelligence

- Created an ARIMA time series model combined with a Restricted Boltzmann Machine (RBM) in R to predict stocks based on their historical prices.
- Predictions fell within  $\pm 10\%$  of the actual prices of the 18 stocks tested.
- Working on more testing and model configurations for better accuracy.

### BLOCK CIPHERS

CSCI-200 Algorithm Analysis

- Investigated the theories behind block ciphers, essential in data encryption.
- Wrote a C++ proof-of-concept substitution-permutation network, a structure used in most modern block ciphers such as AES.

### L<sup>A</sup>T<sub>E</sub>X ON ANDROID: TEXMOB

CSCI-230 Software Engineering - Mobile Computing

- Created a fully functional prototype of an Android app to write and compile L<sup>A</sup>T<sub>E</sub>X
- Designed all of the user interface and client-side logic.

## EXTRACURRICULARS

GHC Scholar & Poster Presenter

Participant - Honorable Mention  
Participant

Co-Founder & Vice President

Resident Director

Trustee

Grace Hopper Celebration of Women  
in Computing 2016

Mathematical Contest in Modeling 2015, 2016

DEF CON 25, HackMIT 2016, OHI/O 2015

Computer Science Club - Coll. of Wooster

Office of Residence Life - Coll. of Wooster

Jenny Investment Club - Coll. of Wooster