

CALVIN KRANIG

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1841 Schlimgen Ave
Madison, WI 53704

EDUCATION

BS	Iowa State University, Computer Science Graduated Summa Cum Laude with Honors	December 2019
PHD	University of Wisconsin Madison, Computer Science	In Progress

HONORS AND AWARDS

Distinguished Military Graduate, U.S. Army Awarded to top 20% of ROTC Cadets on the National Order of Merit List	2019
Arthur A. Collins Scholarship, Iowa State University Awarded to students with 3.0+ GPA who have taken leadership positions on campus	2018
Joseph Cribbins Scholarship, Civilian Sponsored Scholarship Program Awarded to top 2 ROTC Cadets in the nation with STEM majors	2018
MS2 Cadet of the Year, Iowa State University Awarded to the top 2 nd year Cadet in the Iowa State ROTC program	2017

RESEARCH EXPERIENCE

University of Wisconsin Madison Research Assistant	August 2022 to May 2023
<ul style="list-style-type: none">Conducted software vulnerability assessment of 3rd party IDM/Authentication SoftwareStudent Researcher on NSF funded research study on DNS	

TEACHING EXPERIENCE

Iowa State University Teaching Assistant , Computer Science Orientation	August 2019 to December 2019
<ul style="list-style-type: none">Gave large lectures as needed, and led weekly small group breakouts200+ undergraduate students per lecture and 30 students per small group	
Iowa State University President , IgniteCS	August 2016 to May 2018
<ul style="list-style-type: none">Developed project based coursework for teaching high school students PythonLed weekly classes containing 5-10 students	

PRESENTATIONS

Kranig, C. (2019). Python for High Schoolers. Project Presentation given at the bi-annual Iowa State Honors Project Presentation Ceremony

PROFESSIONAL EXPERIENCE

General Dynamics Mission Systems, Bloomington, MN

Software Engineer, January 2020 – Present

- Developed a mission critical C++ module for running inference on TensorRT optimized DNN models
- Enabled the training of a specialized contract specified object detection DNN by developing image generation scripts utilizing Blender
- Tested end product for optimal power usage and object detection performance
- Designed, developed, and programmed a virtual environment for testing drone swarm behaviors
- Developed and tested a Deep Q Learning model for handling drone swarms in a combat environment
- Created back-end interface for utilizing proprietary Air Force software for modeling and simulation

Minnesota Army National Guard, Rosemount, MN

Cyber Operations Officer, June 2015 – Present

- Led and organized multiple fundraising events consisting of 100+ cadets
- Lead cyber protection team mission element consisting of 6-10 analysts
- Trained and conducted defensive cyber operations including network monitoring and malware discovery
- Trained and performed offensive cyber operations including initial exploit and privilege escalation

Iowa State University, Ames, IA

IT Specialist, November 2016 – December 2019

- Updated and maintained websites for the Political Science and History departments
- Maintained and upgraded local hardware and network infrastructure

National Reconnaissance Office, Chantilly, VA

Software Development Intern, Summer 2018, 2019

- Designed software architecture and logical data model for a new Mission Assurance software tool
- Applied knowledge of model based systems engineering to create a workflow model and SLA
- Advised the head of the modeling department on model development practices and procedures

LEADERSHIP AND VOLUNTEER WORK

RoboCup, University of Wisconsin Madison
Team Member, January 2023 – Present

First Lego League, Minnesota STEM Partnership
Team Captain, November 2020 – February 2021

Iowa State Honors Student Board, Iowa State University
Web Master, August 2018 – May 2019
Upper Honors Activity Planning Board Member, January 2017 - May 2018

COMPUTER SKILLS AND CERTIFICATIONS

Programming Languages: Java, Python, C, C++, MATLAB

Libraries & Applications: Security Onion, Pytorch, TensorFlow, TensorRT, GRR, Wireshark, Blender

Certifications: CISSP, CCNA

Clearance: TS/SCI