

# William Knight

## Penultimate Networks and Cybersecurity Student

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**Location:** Auckland, New Zealand

### Career Objective and Background

I'm a networks and cybersecurity, and software development major at AUT, seeking a security analyst or similar cybersecurity role to gain industry experience.

What I like the most about cybersecurity is that it's fun and rewarding, as there is always a need to grow in order to make a difference. I love the fact that it pushes me, keeps me constantly learning, and I feel that compared to other careers, cybersecurity is one that will always be constantly evolving.

Currently, I'm working on a final year research and development project for Deloitte. I have been pushing myself out of my comfort zone to learn how CVE tools function, and have made some ransomware in Java a month or two ago for personal upskilling. I am currently preparing for a capture the flag event which will be hosted using picoCTF. Additionally, I'm also a teaching assistant for a networking paper at AUT, and have been awarded a research grant where I wrote a feasibility study and a network modelling report for \$7500. I'm a member of CSEA as of 2024 at AUT, hold a GPA of 8.833, and have a lot of experience in full stack development over the past few years which you can view on my website ([www.wknight0.com](http://www.wknight0.com)).

I'm very engaged in my work and interested in all cybersecurity related topics, bringing a strong work ethic to push and better myself.

### Experience Summary

**Teaching Assistant at AUT (February 2024 - Current)**

**Customer Support Representative at BP (January 2022 - April 2022)**

**Freelance Video Editor (February 2018 - November 2018)**

### Education

**Bachelor of Computer and Information Sciences: Double Majoring in Networks and Cybersecurity, and Software Development at AUT (July 2022 - Current)**

### Detailed Experience

#### Teaching Assistant at AUT (February 2024 - Current)

- Streamlined communication between 150 students and professors by managing online discussion boards and responding to email inquiries promptly.
- Evaluated student performance regularly using various assessment tools such as quizzes and lab work.
- Supported faculty members with administrative tasks including grading papers, updating class records, and tracking attendance.

Cisco Packet Tracer exercises were used to facilitate learning for each of the student, and Canvas was used to grade and manage each of the students. Skills and knowledge in network simulators and networking were used to help each student respectively.

### **Customer Support Representative at BP (January 2022 - April 2022)**

- Consistently met or exceeded performance metrics while maintaining a high level of customer satisfaction.
- Delivered exceptional support during peak hours, effectively managing stress and maintaining composure in challenging situations.
- Enhanced customer satisfaction by efficiently addressing and resolving inquiries, complaints, and concerns

The terminal gate and register were used to facilitate customer transactions. Adaptability and being proactive were some of the skills used to provide excellent support to customers.

## **Project Experience**

### **Feasibility Study at AUT (January 2024)**

- Made aware of reduced throughput when utilizing mobile data through a vehicles on board unit.
- Researched multi-attribute based handover for LTE between existing standards and future technology in-depth in order to come to a conclusion on whether or not this would be a feasible project or not.
- Submitted a feasibility report to the client with references and appendices.

IEEE Xplore and academic papers found on ResearchGate were used in order to add credibility to the feasibility of my report which was written in Microsoft Word. Being able to scan for credible information on a niche topic was one of the most important skills which helped me reach completion of the feasibility study.

### **Network Administration Project at AUT (January 2024)**

- After receiving a hypothetical case of a client who was dealing with DDOS attacks and PHP code injections utilising the company website's GET and POST requests, we had to research an appropriate networking topology.
- Proposed a network topology to help mitigate future attacks and set up group policies and documentation for a Windows Server instance on how to manage the network.
- Submitted a report proposal and presented the proposal.

Windows Server was used to actually create an instance of the network to create and show group policies, and Microsoft Visio was used to create the topology of the network. Being able to collaborate within a group to analyze and pick apart key problems that the client was dealing with was an essential skill needed to draft and present our proposal.

## **Skills Summary**

### **Vulnerability Assessment**

After getting an invitation to an Aura capture the flag event, I had to scan the network and website provided in order to find various flags I needed to collect for the event. Utilizing tools on Kali Linux such as DirBuster, and BurpSuite, I was able to find a few flags. Using DirBuster, I selected the main home directory and utilized a wordlist where I found an image where there was a flag hidden in the metadata. Using BurpSuite, I edited the POST request from a form submission which also gave me a flag.

### **Automation Implementation**

There was a three day delay in the time it takes for an email to be sent out to students when paper selection becomes available at AUT. I created an automated web scraping script using Python which signs into my account via Arion, navigates to paper selection, and checks to see whether or not next years papers are available. I compiled the program to an executable format and have it run in the background every few hours and notify me only when they become available.

## **Programming**

In order to understand how Ransomware works and how to defend against it, I decided to create a Ransomware program. Utilizing Java, I created a program which has three separate classes, one which propagates the computer and takes note of all directories that aren't the system before passing it back, and another class which encrypts all files with a secret AES key which is randomly generated when the program is first executed. The third class is a main class which utilizes an instance of each class. Along with Java, I also have programming knowledge in JavaScript, PHP, C, C#, Bash, and Python.

## **Logical Reasoning and Troubleshooting**

Working on lots of different projects has exposed me to lots of different problems which require an adequate solution to remedy the problem as quickly as possible. When creating a network on OMNET++ for my Advanced Network Technologies paper, I encountered a problem with 802.11ax technology as my clients were able to receive incoming video packets from my server, however, increasing the separation distance between the clients and the server had no effect on the average throughput. I managed to figure out however that a radio propagation model wasn't included in the 802.11ax model and had to enable it in the configuration which worked and allowed for me to compare separation distance to the average throughput.

## **Teamwork**

For my Research and Development project this year, our team had a lot of documentation to create in a short amount of time, and we were only able to complete it on time by collaborating with one another and using tools such as Trello to manage our workload, and through utilizing the Scrum Framework which allowed us to iterate through our documentation tasks and allowed us to deliver the work in the shorted time allotted. We had two developers, one scrum master, one product owner, and one team lead.

## **Interests**

I'm really interested in vulnerability assessment and penetration testing where I watch videos and read newsletter content that keeps me up to date with the latest technologies. I'm also interested in personal development as I train in Kyokushin Karate, and play chess in my spare time.