TEK HUYNH

Software and Mechatronics Engineer

tekhuynh@gmail.com

0404 836 385

linkedin.com/in/tek

github.com/tekhuynh

twitter.com/tekhuynh

SUMMARY

I like to make things to make things.

I like to make things to break things. I like to break things to make things.

I like to break things to see things. I like to see things to break things.

I like to see things to make things. I like to make things to see things.

I like to make things to make things.

WORK EXPERIENCE

Course Admin and Tutor

University of New South Wales June 2018 - December 2018

Administration:

Completed many little tasks to ensure smooth execution of courses.

- Setup assignment submissions using archaic university ecosystems
- Setup exams which involved provisioning VMs and organising invigilators
- Communicate updates to students
- Video recorded lectures when needed using expensive video equipment
- Marked assessments
- Collated and processed student assessment marks

`Linux` `Bash` `Perl` `MS Excel` `VMWare Fusion/Workstation` `FFMpeg`

Binary Exploitation:

Tutored students and gave them guidance on how to approach binary exploitation.

- Reverse engineering
- Source code auditing
- Binary exploitation primitives
- Binary exploitation development
- Developed Flask app to selectively present data to students

`C` `x86 Assembly` `GDB/pwndbg` `IDA/Binary Ninja` `pwntools` `Python` `Flask` `HTML/CSS`

Digital Forensics:

Tutored students and gave them guidance on how to write reports and document their investigations.

- Developed assignment specifications
- Developed report writing guide
- Surveyed students to understand items for improvement
- Developed Flask app to allow students to persist data in exam environment

`Python` `Flask` `HTML/CSS` `Autopsy/TSK` `FTK Imager`

Web Developer

Seatfrog December 2016 - June 2018

Frontend:

Continued work on frontend to a statistics dashboard which was used by client's revenue and operations teams.

- Worked with UI/UX designers
- Updated existing react codebase

`React` `Redux` `D3` `HTML` `SASS`

Mobile:

Continued work on seat upgrade auction app after resignation of android developer.

- Updated copy
- Updated UI elements
- Investigated and fixed bugs

Lesson 1 - Use the right tool for the job.
Lesson 2 - Keep it simple.

`Android` `Java` `RxJava` `Realm` `Sketch`

Backend:

- Added and fixed features across entire codebase
- Developed interfaces to rail and aviation APIs
- Developed statistics dashboard api
- Developed seating algorithms
- Developed email parser which added customer trips via email

Lesson 1 - ORMs are for simple SQL and CRUD.
Lesson 2 - Write good documentation.
Lesson 3 - Careful with concurrency.

`PHP` `Symfony` `Doctrine` `MySQL` `Javascript/Node/Typescript` `Express` `Go` `RabbitMQ`

DevOps:

- Investigated system and user issues
- Setup physical network infrastructure
- Setup physical linux boxes
- Reviewed cloud infrastructure
- Maintained docker configurations
- Maintained terraform configurations

`ELK` `Docker` `Terraform` `AWS` `Linux/Bash/Perl`

Firmware Developer

Ragtagd September 2016

- Developed driver to interface with RFID tag reader
- Developed scheduler to contact server using complex timing rules
- Developed algorithms to process tags

Technologies used:

`Particle.io (Microcontroller)` `ThingMagic (RFID Module)` `C` `C++`

Intern Web Developer

STEMN December 2015 - February 2016

Worked on an existing code base. Mostly wrote algorithms to extract and process data for website analytics. Added some small features. Also did some debugging of existing code when bugs were found.

Technologies used:

`JavaScript/Node` `Redis` `MongoDB`

ACHIEVEMENTS

Cryptography Audit

Cisco/University of New South Wales

April 2016

1st Place

Black box analysis of a system to encrypt data encapsulated by IP layer.

Technologies used:

`Wireshark` `Perl` `Python` `Statistical Analysis`

Game AI Development - Fury of Dracula

University of New South Wales

October 2015

1st and 3rd Place

3rd Place - Used machine learning to develop an AI to compete in a non trivial game. This system was initially trained by two AIs competing with eachother but this did not produce good results. It was eventually trained against the AI which placed 1st.

1st Place - Process the various events which occured during gameplay to constrain the set of possibilities. This information was then combined with heuristics and mathematical functions which attempted to optimise map coverage accordingly.

Technologies used:

`C` `Machine Learning` `Information Processing` `Maths` `Heuristics`

Haskell Hall of Champions

University of New South Wales

May 2012

3rd Place

Certificate Link - http://www.cse.unsw.edu.au/~cs3141/hoc/2012_3b.pdf
Quote from - http://www.cse.unsw.edu.au/~cs3141/hoc :
"The following people have achieved great distinction and honour by completing large amounts of meaningless busy work for little gain."

Technologies used:

`Haskell` `Agda`

Game AI Development - Checkers/Gomoku

University of New South Wales

May 2009

1st Place

Programmed AI to play a game which was a fusion of Gomoku and Checkers. Used simple recursion to simulate the next few moves and a heuristic and pattern matching to determine the strength of the move.

Technologies used:

`C` `RFS` `Heuristics`

EDUCATION

BSc in Computer Science
University of New South Wales
2009 - 2017

BE in Mechatronics
University of New South Wales
2009 - 2017

Transcript
- Original
- Marks
- Summary
- Summary Perl Script

FLUFFY STUFF

Tooting my own horn

Not Dumb (LinkedIn Edorsement)
100%

Security Engineering
75%

Systems Design
85%

Tabs vs Spaces
80% Tabs

16Personalities (ISFP)

Introverted
83%

Observant
59%

Feeling
78%

Prospecting
57%

Turbulent
54%

LANGUAGE

English (Native)

Vietnamese (Basic)

INTERESTS

Science
New Technologies
Growing Plants
Growing Fungi
Psychology
Systems Design