

Yin Fung Khong

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SUMMARY

Highly motivated, passionate and ambitious young professional demonstrated success and dedication in academics and leadership. Detail-oriented, attentive and dependable, completed every assigned tasks and responsibilities in a timely manner with genuine commitment to quality and satisfaction with great engineering ethics and disciplines. Proactive leader and team player in organizations and extracurricular activities, integral to success of numerous projects and university programs. Looking for an opportunity to leverage both engineering and leadership skills in the field of engineering.

EDUCATION

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|--|------------------------|
| Master of Science (M.S.) in Computer Engineering | Jun 2019 |
| <ul style="list-style-type: none">California State University, Northridge (CSUN)Distinction Award, Outstanding Graduate Award | (3.94/4.0 CGPA) |
| Bachelor of Science (B.S.) in Computer Engineering | Jan 2018 |
| <ul style="list-style-type: none">California State University, Northridge (CSUN)Summa Cum Laude | (3.94/4.0 CGPA) |
| Associate of Science (A.S.) in Computer Engineering | Jun 2015 |
| <ul style="list-style-type: none">North Seattle College (NSC) | (3.97/4.0 CGPA) |

SKILLS / CERTIFICATIONS

Programming: C, Java, Python, VHDL, Verilog, System Verilog, Matlab, C#, ARM Assembly, PHP, HTML
Embedded System: ARM7 LPC2148 Microcontroller, Xilinx Zynq-7000 SoC Zedboard
Operating Systems/Development Tools: Microsoft Windows, Linux, Mac, Ubuntu, Visual Studio, Vivado SDK
Multilingual: fluent in English, Mandarin, Bahasa Malaysia and conversational in Cantonese and Hokkien
CRLA International Mentor Training Program Certification (IMPTC): Certified Mentor Level I

PROFESSIONAL AFFILIATIONS

- Tau Beta Pi (TBP) Engineering Honor Society**
- Initiated Class of 2017
- Institute of Electrical and Electronics Engineers (IEEE)**
- Member since February 2017

WORK EXPERIENCE

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|--|-----------------------------|
| Graduate Assistant CSUN Dept of Electrical & Computer Engineering | Sept 2018 – May 2019 |
| <ul style="list-style-type: none">Assisted approximately 200 students, offered constructive feedback based on students' performance.Led weekly lab, provided feedbacks in programming techniques and practice for code efficiency. | |
| Peer Mentor CSUN Mentorship Program | Jan 2017 – May 2019 |
| <ul style="list-style-type: none">Impacted assigned mentees positively by serving as a social and academic role model.Helped set goals and offer support through referral of resources available on campus.Fostered a supportive environment with constructive feedback on performance. | |
| Student Coordinator CECS Mentorship Program | Jan 2019 – May 2019 |
| <ul style="list-style-type: none">Identified the concerns and needs of the students within the College of Engineering and Computer Science, in and outside of the classroom.Structured and piloted the program to improve students learning outcomes within the program.Communicated with the student mentors to discuss mentees' concerns and brainstorm solutions. | |
| Graduate Intern Intel Corporation (iCDG) | June 2018 - Aug 2018 |
| <ul style="list-style-type: none">Designed and developed C# windows application to expedite test data analysis, by incorporating JMP and various package managers, which the calculations and graphs are populated into an excel sheet accordingly.Implemented Machine Learning for pattern detection to predict the distribution type of the test data. | |
| Marketing Photographer North Seattle College | Nov 2014 - July 2015 |
| <ul style="list-style-type: none">Liaised with the marketing department to visualize and design marketing materials.Created and photographed college's community and events based on the marketing needs. | |

PROJECTS

- A Novel Approach for Efficient Implementation of Nucleus Detection and Segmentation Using Correlated Dual Color Space** *(In proceedings of IEEE SMC 2019 Conference)* **Apr 2019**
- Researched and proposed an algorithm for nucleus segmentation in microscopic blood images using digital image processing techniques, to improve the accuracy and accelerate blood diagnosis.
 - Developed a highly versatile image processing technique to segment the nuclei from a broad spectrum of blood images while retaining cell features and integrity in the processed image up to 98.99% accuracy using Matlab.
 - Developed a novel technique that exploits the correlation between the RGB and CMYK color spaces, and yields segmented nuclei that are virtually congruent to the nuclei in the initial image.
- Automated Application Data Validator in C#** **Apr 2019**
- Assessed the process and made recommendations to implement automated validation tools to supervisors.
 - Utilized C# in Visual Studio IDE to develop a software tool that automates data validation, flags invalid or incomplete profile with high accuracy, and reduced human involvement and processing time up to 95%.
- Distance Vector Routing in a Remote Messenger App in Java** **Apr 2019**
- Implemented a simplified messenger utilizing Distance Vector Routing Protocol on top of TCP connection to determine the best route between nodes in the network.
 - Predefined network topology is loaded into the program upon startup, and server commands may be called to manipulate the topology, including updating the link cost between two nodes and disabling certain nodes.
- A Chat Application for Remote Message Exchange in C Language** **Mar 2019**
- Developed a two-in-one server-client chat application utilizing TCP Sockets in C language in Eclipse and UNIX shell that is able to handle multiple socket connections at any runtime.
 - Extended program functionality with user commands, carefully handled possible system and user errors.
- Blood Cells Detection using Circular Hough Transform in MATLAB** **Dec 2018**
- White Blood Cells detection and calculation on color blood test images in MATLAB environment using morphological operations to process and filter image noise for higher accuracy.
 - Translated concept for implementation on real-time detection on Zedboard FPGA.
- RISC-Y Processor using Verilog and System Verilog** **May 2018**
- Modeled a working RISC-Y processor that has immediate or direct addressing mode, by instantiating modules such as scalable MUXs and registers, sequence controller, scalable register files, AASD and ALU.
 - Wrote a testbench to verify the functionalities of the processor module: fetch an instruction from the ROM memory, decode the instruction, fetch a data operand, perform ALU operations and store the result.
- Multi-Clock and Timers using ZedBoard Development Board** **Nov 2017**
- Implemented FSM on the Zedboard FPGA for chess clocks and timers with error handlings, utilized LFSR for pseudo-random number generation for Fischer chess clock.
 - Incorporated PMODs such as seven-segment display, and on-board push buttons for user control.
- Automated Music Box using Xilinx Zedboard Incorporating Image Processing** **Nov 2017**
- Implemented the Optical Recognition System using Matlab to extract the musical data such as frequency and duration of the note from a camera image, which they will be stored into a SD memory card.
 - Configured SDIO to read the data, and store them into BRAM within the Zedboard with read and write functionalities defined in the software implementations.
 - Utilized ADAU1761 Audio Codec and I2C communication protocol for sound reproduction at the speaker connected through GPIO pin. 8 onboard LEDs are used for pitch visualization of the current playing note.
- Audio Codec using ZedBoard SoC Development Board** **May 2017**
- Integrated PL and PS of the Zedboard SoC to implement functionality for audio streaming.
 - Implemented onboard display and switches for frequency filtering and tones to the audio streaming output.
- 32 Bit Binary Floating-Point Adder Using IEEE 754 Single Precision Format** **Nov 2016**
- Implemented floating point adder in VHDL according to IEEE 754 standard using Xilinx Vivado.
 - The adder accepts and normalizes two numbers, and using two's complement adder to add or subtract the pre-normalized significands.

PERSONAL ACHIEVEMENTS

- Matador Volunteer Service Award** 2019
- Accumulated total of 350 hours of community services, including outreach, Matador Day of Service, campus clothes drive, beach cleanup, Cesar Chavez Service Fair and etc.
- President's Volunteer Service Award (PVSA)** 2016, 2017, 2018
- Awarded Gold Awards for three consecutive years of active involvement.
 - Accumulated over 100 hours of community services on and off campus each academic year.
- Best Leadership Award, Tau Beta Pi Engineering Honor Society** 2018
- Dedicate on average of 8 hours for officers' coordination, event planning and outreach.
 - Created a new user-friendly chapter website for members recruitment and chapter's news and updates.
 - Recruited 43 new members in the first semester, and a total of 140 new members over three semesters.
 - Invited and involved 5 faculty members in chapter development and improvement
- Automated Music Box using SoC and Image Processing (Project)** Nov 2017
- Awarded second runner up in ECE Senior Design Project Presentation Competition.
 - Camera capture of music sheet, notes detection using image processing techniques.
 - Audio processing using audio codec and I2C protocol to remap and reproduce melodic sound.

INVOLVEMENTS

- President, Tau Beta Pi Engineering Honor Society** May 2017 – May 2019
- Re-chartered the chapter in the college, initiated over 140 members into the organization.
 - Coordinated officers, maintained chapter operations and defended constitution.
 - Maintained industrial connection, coordinated over 30 recruiting session/workshops on campus.
 - Awarded "Effective Use of Technology Award" in recruiting and promoting the organization.
- President, Leaders in Engineering and Computer Science - Student Council** Nov 2017 – May 2019
- Developed a unified, comprehensive representation of students in the college to solve common challenges faced by the engineering students in and outside the classroom.
 - Served in Student Advisory Board and assisted the college in ABET accreditation.
 - Coordinated the two years of Engineering Week and similar event series inclusive to all students, to increase engineering awareness and breaking the common engineering stereotypes.
- Matador Mentor, CSUN New Student Orientation (NSO)** May 2016 – May
- Mentored incoming orientation leaders and provide support and coordination to the NSO Leadership.
 - Welcomed and acclimated new students to the university environment and culture.
- Volunteer, CSUN Unified We Serve** Sept 2015 – Apr 2019
- Volunteered in various activities on and off campus as a whole.
 - Promoted community engagements and awareness, and provided help and assistance to the unfortunate.
- Chair of Financial Affairs Committee, Tau Beta Pi National Convention** 2017, 2018
- Reviewed the auditor's and Executive Director's reports and chapter accounts receivable to the Headquarters.
 - Determined and made motions pertinent to the association's spending budget.
- Vice President, Tau Beta Pi Engineering Honor Society** May 2016 - May 2017
- Assisted President of the chapter in all legal duties of the chapter.
 - Maintained communication and coordinated officers for chapter's activities.
- Webmaster, Tau Beta Pi Engineering Honor Society** Jan 2016 - May 2016
- Developed and designed a new website for chapter's event postings and updates.
 - Maintained and updated the website to enhance members experience.
- Treasurer, CSUN Cross-Cultural Friendship Club** Aug 2015 - July 2016
- Handled all financial affairs, preparation of financial report and record keeping.
 - Prepared and defended annual budget application for organization's activities.
- I-Care Volunteer, North Seattle College Volunteering Program** Sept 2014 - May 2015
- Volunteered in community kitchen to prepare meals to local emergency shelters.
 - Packed and transported meals to shelters and facilities, and served the needy.

COURSEWORKS

ECE420	Digital Systems Design with Programmable Logic
ECE422	Design of Digital Computers
ECE425	Microprocessor Systems
ECE442	Digital Electronics
ECE443	Pulse and Waveshaping Circuit Design
ECE450	Probabilistic Systems in Electrical Engineering
ECE520	System on a Chip (SoC) Design and Laboratory
ECE524	FPGA/ASIC Design and Optimization using VHDL
ECE526	Digital Design with Verilog and System Verilog
ECE595	Image Processing
ECE621	Computer Arithmetic Design
ECE623	Diagnosis and Reliable Design of Digital Systems
ECE624	Digital System Design Automation and VHSL Modeling
ECE635	Error Detection and Correction Systems Design
COMP282	Advance Data Structure
COMP424	Computer System Security
COMP429	Computer Network Software
COMP584	Advance Web Engineering

HOBBIES

Marathon

- Completed 28 marathons since 2009, including LA Full Marathon, Seattle Full Marathon and Pasadena Half Marathon.

Photography

- Created personal photography website as online portfolio, expresses feeling through photo artworks.

Road trip

- Visited 11 states and various national parks such as Yellowstone, Yosemite, North Cascade and Zion NP.

Culinary Arts

- Enjoyed working with a limited pantry and budget to create restaurant quality food, challenges critical thinking.