

Carson Wang

SOFTWARE ENGINEER · ALGORITHM ENGINEER

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Education

GSCASS(University Of Chinese Academy Of Social Sciences)

MASTER OF SCIENCE IN COMPUTATIONAL LOGIC

Beijing, China
Sep. 2018 - Apr. 2021

Anda(Anhui University)

BACHELOR OF SCIENCE IN APPLIED MATHEMATICS, MINOR IN FINANCIAL MANAGEMENT

Anhui, China
Sep. 2014 - Jun. 2018

Experience

Apple (iPad/iWatch/iPods)

SOFTWARE ENGINEER IN HWTE DEPARTMENT

Shenzhen, China
Feb. 2022 - PRESENT

- Work as one station DIR for developing overlay test system and monitor the engineering building with machine learning.
- Leverage object detection/seg to ensure NPI product's reliability, and deploy DL model into mass-production factory.
- Use macOS-based programming to build frameworks to support various hardware modules in NPI, like Touch and USBC modules.

BiRenTECH (Public listed, Chinese GPGPU HW and SW maker)

ALGORITHM ENGINEER IN MODEL QUANTIZATION OF AI-PLATFORM DEPARTMENT

Beijing, China
Jan. 2021 - Feb. 2022

- Developed the module of model quantization of Biren inference engine based on SUPA programming paradigm, which is like the proprietary TensorRT of CUDA owned by Nvidia, using C++11.
- Implement SUPA(like CUDA) operators tailored for neural network node, like convolution operator and its fp16/int8 kernel on in-house GPU to reduce memory footprint and accelerate computing, using C99.
- Customized micro YOLO models with the DeepStream toolset on NVIDIA Jetson edge devices to do real-time video understanding, using Python and Pytorch.

InsimationTECH (Smart transportation provider in Railway/Highway)

ALGORITHM ENGINEER INTERN IN OBJECT DETECTION GROUP OF TECH DEPARTMENT

Beijing, China
Jun. 2020 - Dec. 2020

- Upgraded Caffe-based SSD object detection model to the new Pytorch-based Refinedet network with the latest tech skills like DIOU.
- Created new RESTful model inference system for Road defect detection models and Railway health inspection APP.

Horizon Robotics (Public listed, develop AI chips used in self-driving cars)

ALGORITHM ENGINEER INTERN IN FACE RECOGNITION GROUP OF AIoT DEPARTMENT

Beijing, China
Jun. 2018 - Nov. 2018

- Completed implementations of several CVPR AI papers, like "LDMNet: Low Dimensional Manifold Regularized Neural Networks".
- Trained large-scale face recognition models with datasets of various conditions in paralleled MXNet deep learning framework.

Honors & Awards

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|------|---|---------------|
| 2016 | Second prize , Mathematics Major Group of National College Student Mathematics Competition | China |
| 2016 | Second Prize , National College Students Mathematical Modeling Competition | China |
| 2016 | Second Prize , Anhui University Student Scholarship | Anhui, China |
| 2016 | Third Prize , Anhui University Student Science and Technology Innovation Award | Anhui, China |
| 2013 | Second Prize , National High School Mathematics League | Bozhou, china |

Skills

Program Coding Ability

- Language: Compiled(C/C++/Objective-C, JAVA, Swift, Assembly); Interpreted(Python/Lua, Shell, TS/JS).
- AI: Algorithm(PyTorch/Keras/TensorFlow/MXNet, CUDA, MATLAB/MatConvNet); Data(MySQL).
- Framework: Graphic(OpenCV, FFmpeg, OpenGL); Computing(TensorRT, SLAM); GUI(Qt, React, SwiftUI), Web(Spring).
- Platform: OS(Linux/Android/HarmonyOS, iOS/macOS, ROS); Container(Docker/K8s)

Computer Science Ability

- Artificial Intelligence, Recursive Theory and Computational Complexity, Discrete Mathematics.
- Probability Theory, Mathematical Statistics; Advanced Algebra, Matrix Analysis; Numerical Analysis, Combinatorial Maths.