

## Professional Profile

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An innovative cs-major undergraduate with an academic rigor spanning four countries, a solid coding skillset of Python, C++, JavaScript, and a knack for devising robust AI solutions through cooperative team dynamics. Able to leverage a heavy dose of deep learning with data analytics, and a healthy sense of exploration and collaboration. Aspire to contribute to the cutting edge of computer science research and application with an unyielding curiosity and a collaborative spirit.

## Education

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- University of California Berkeley, US** – Exchange Student at EECS@UCB Ongoing since 01/2024
- Selected Courses (19 credits): CS160 User Interface Development, CS184 Computer Graphics, CS189 Machine Learning, EECS C106B Robotic Manipulation, ENGIN 125 Ethics and Engineering
- Dalian University of Technology, China** – Bachelor of Computer Science and Technology Ongoing since 08/2020
- Average Score: 91.2/100
  - Major Courses: Data Structures and Algorithms, Computer Principle, Computer Architecture, Compiler, Operating System, Database System, Computer Network, Software Engineering
  - Math Courses: Engineering Math, Probabilistic and Statistics, Complex Function, Discrete Math
  - Circuit Courses: Digital Logic, Analog Electronic Circuit, Circuit Experiment, Electronic Innovation
- University of Oxford, UK** – Summer Programme Student at LMH@OXFORD 07/2023 - 08/2023
- Selected Course (4 credits): AI & ML - Advanced Applications of Neural Network, Deep Learning
  - Seminars: Deep Reinforcement Learning (@UCB), Machine Learning with Graphics (@Stanford)
- Technical University of Munich, Germany** – Exchange Student at Informatik@TUM 10/2022 - 02/2023
- Selected Course (5 credits): Techniques in AI
  - Seminars: TUM Data Innovation Lab (@Amazon), TUM Robotics (@BMW), TUM Internet Lab

## Projects

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- Beam Prediction Based on Multi-Modal Fusion** | Undergraduate Thesis | DUT, China Ongoing since 01/2023  
Supervisor: Prof. Xuanheng Li, DUT Associate Professor of School of Information and Communication
- Worked directly under supervision of Prof. Xuanheng Li, to propose a novel and effective solution of proactive beamforming scheme that integrates multi-modal sensing and communication via Deep Residual Network (ResNet) and transformer; our network obtained real-world comprehensive environmental features on DeepSense6G Dataset, and achieved >97.55% Top-5 ACC for prediction.
  - Designed, trained, evaluated, and tuned uni- and multi- modal ResNet and transformer using Python.
  - Coded, tested, debugged, implemented MultipleWeatherTranslationGAN.py to enlarge rgb dataset.
  - In-progress drafting to publish an IEEE Transactions on Vehicular and Technology for this project.
- UAV Based ML Aided Integrated Sensing and Communication** | Research Project | DUT, China 12/2021 - 12/2022  
Supervisor: Prof. Xuanheng Li, DUT Associate Professor of School of Information and Communication
- Worked directly under supervision of Prof. Xuanheng Li, to develop a powerful and integrated ISAC platform (Communication: OFDM, Radar: FMCW) on the portable Pluto-SDR (SW Defined Radio); then utilized it as the platform for our proposed DQLearning-Framed Intelligent Drone Deployment.
  - Ended up with a patent and awarded as National-Level in Nationwide College Innovation Program.
- Air-Ground Coordinated Autonomous Aerial Inspection Robot** | Research Project | DUT, China 07/2022 - 09/2022  
Supervisor: Prof. Heng Qi, DUT Dean Assistant for Faculty of Electronic Information and Electrical Engineering
- Worked directly under supervision of professor to successfully build up an aerial inspection robot ended up uploading ground infrastructure's fault images to protect workers from potential danger.
  - Programmed Inspection Path Planning in high-dimen constraint space, using C++, via RRT\* algorithm.
  - Programmed Intelligent Perception Obstacle Avoidance and Trajectory Prediction using Py, via NNs.
  - Programmed Power Target Monitoring and Early Warning using C++, via YOLO5.

## AI-Driven Medical Image Processing | Research Project | DUT, China

03/2021 - 07/2021

Supervisor: Prof. Hongkai Wang, DUT Associate Dean of Faculty of Medicine, Professor of School of Biomedical Engineering

- Worked directly under supervision of Prof. Hongkai Wang, to research on manual image processing for trachea image segmentation, utilizing MITK Software; then designed, trained, evaluated, tuned a well-programmed nnUNet to successfully realize trachea image segmentation without manual op to end up with 3D-printed physical models of segmented trachea deriving from our nnUNet.

## Skills and Tools

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- C, C++, Java, Python, JavaScript, Verilog HDL (logisim)
- Git, VSCode, Jmeter, Testbed, Loadrunner
- CGAL, OpenMesh, VTK, ECharts
- PyCharm, PyTorch, TensorFlow
- HTML, D3.js, Tableau, NoSQL data stores (MongoDB)
- MySQL, Big Table, MapReduce, Mahout, Hadoop

## Experience

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### Baidu Apollo Autonomous Driving Project at Institute of Software Chinese Academy of Sciences (ISCAS) Beijing, China

Summer Intern

06/2023 - 07/2023

Supervisor: Dr. Lingzhong Meng, ISCAS Researcher

- Worked closely with various teams at Integration Center, ISCAS, to propose a comprehensive solution for Baidu Apollo Autonomous Driving Project, linking functionalities of bottom layers, software usage, and data learning, etc., to connect the entire autonomous driving workflow.
- Coded, tested, debugged, implemented and documented the two modules using C++ and Python.
- Utilized Protobuf for HDMap Module, to read high-precision maps in Opendrive format, build up KDTree storing map data, implement the functionality of finding the road and subsequent nodes based on the entered starting point coordinates; lastly visualizing results via PCL, Qt, Vtk, OpenCV.
- Utilized Apollo's built-in tools of Dreamview (Apollo6.0) and OSM (Apollo3.0) for Routing Module, to successfully implement such two methods of visualizing the system's expected routing functions.

### AI-driven Legal Supervision System for Protection of Minors at Local People's Procuratorate

Dalian, China

Semester Intern

04/2023 - 06/2023

Supervisor: Prof. Xianneng Li, DUT Associate Dean of School of Economics and Management

- Worked closely with another team from School of Economics and Management, to develop a full-stack legal supervision system for Minors Protection in Dalian City, linking front-end portals, back-end data processing, to provide intelligent analysis and judgement HTMLs from views of tech and legi.
- Coded, tested, debugged, implemented and documented the front-end multi-modal data collection portal, the back-end data processing stack, and the final heat-map HTMLs using C++, Python, JS.
- Utilized Image Caption/OCR on images, Video Frame Interpolation on videos, LAS on audios to convert mountainous collected multi-modal data into text, in collaboration with management team.
- Utilized BERT, Naive Bayes, Keyword Multiclassification techniques on post-textual-processed data, to classify into 5 legi case types for management team's further refinement based on legal terms.
- Labeled collected datasets classified as case types as above with a corresponding protection type for each, then designed, trained, evaluated, and tuned a transformer model; such model was successfully utilized to take in new case descriptions to classify, label and lastly predict the protection type.
- Ended up with a patent (in progress) and a Second Runner-Up Award in Provincial Big Data Contest.

## Honors and Awards

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- 2022-2024 DUT International Communication Association - Overseas Communication Center (role: Minister)
- 09/2022 DUT Model Student of Academic Records, Model Student of Science and Innovation (awarded Scholarship)
- 09/2022 China Modeling Award (2% nationwide, leader), 02/2022 International Modeling Award (1% globally, leader)

## Sports and Volunteer

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- Swimming, Hiking, Kayaking, Sailing, Wind Surfing
- Volunteer for UC Berkeley Inclusive Recreation Adaptive Sports Wheelchair Rugby, honored by Berkeley Rec&Well
- Volunteer for 2023 San Francisco APEC Economic Leaders' Week, honored by Berkeley CSA