

Chengchen (Dennis) Wu

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Work Experience

- 2021-02 – Present **Research Intern** | Deep Learning
Jaffe Laboratory for Underwater Imaging San Diego, CA
Premiere the use of RandAugmentation in the Pytorch pipeline, improving the underwater QR image recognition by 5%. Craft the optimized image splitting pipeline to enable a high-throughput image recognition with targeted annotation, allowing for a holistic neural network analysis on the underwater images.
- 2020-03 – 2020-12 **Backend Development Intern** | Databases
Nakamura Partners San Diego, CA
Researched measures of conclusive graph database integration of the graph-based database for the company's patented Graph Database Based Emergency Response System. Increased the systems' response down-time by 5%.
- 2019-07 – 2019-09 **Machine Learning Intern** | HCI
Cir LLC Chongqing, China
Endeavored in model optimization for the company's first IoT product - Xrush, a kid-targeted toothbrush striving to keep track of the user's daily brushing habits. Reduced the prediction error of the model that predicts tooth brush movement by 10%.
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Education

- 2018-09 – Present **Bachelor of Science**
University of California, San Diego San Diego, CA
Data Science Major GPA 3.8
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Personal Projects

- 2021-05 LSTM Based Poetry Generation
The model utilized recursive neural network based model to generate vivid Shakespeare's poetry. With Adam optimization algorithm, the predicted result was largely legible.
- 2021-05 Autonomous Vehicle Motion Forecasting
Spatial temporal prediction of 3D automobile trajectory using Multi-layered Linear and RNN. The heavily optimized model allowed for efficient training and robust prediction.
- 2021-03 Opioids Overdose Genome Analysis
Analyzed RNA-Sequencing data, by utilizing comprehensive pipeline to EDA, and identifying the upregulation of genes corresponding to opioids overdose.
- 2020-12 Integrated Cache Based NLP Analysis on US News
Created a multi-database project that allowed a responsive NLP analysis on US News data. The project incorporated keyword based database Redis for responsiveness and graph database Neo4j for novel analysis.
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Skills & Tools

<i>Machine Learning</i>	RNN · CNN · Classification · Regression · NLP · Statistics
<i>Databases</i>	Redis · Postgresql · XML Query · MongoDB · Neo4j · Solr
<i>Libraries</i>	NumPy · Pandas · Matplotlib · Scikit-learn · Pytorch
<i>Languages</i>	Python · R · JavaScript · Java · Bash
<i>Tools</i>	AWS EC2 · Kubernetes · Docker · Git · Jupyter