JUN LI

junnn0530@gmail.com | (858) 257-9019 | 2202 8th Ave, Seattle, WA 98121 | Github: jun-nnn

EDUCATION_____

Stanford University   *Stanford, CA*
M.S. in Computational and Mathematical Engineering (ICME)   *Graduated: June 2019*
Relevant Coursework: Machine Learning, CNN for Visual Recognition, Numerical Linear Algebra, Applied Statistics: Learning and Data Mining, Principles of Software Engineering, Distributed Algorithms and Optimization, Image Synthesis Techniques, Computer Graphics, Applied Vision & Image Systems Engineering, Geometric/Topological Data Analysis, Convex Optimization, Partial Differential Equations

Oberlin College   *Oberlin, OH*
B.A. in Mathematics (High Honors), B.A. in Computer Science   *Graduated: May 2017*
Associate Member *Sigma Xi*, Mathematics Honors Research in *Topology & Geometry,* Majors GPA: *4.0/4.0*
Teaching Assistant for *Algorithm & Discrete Mathematics*, *Data Structures*, *Systems Programming*, and *Information Theory*.

WORK & RESEARCH EXPERIENCE_____

Amazon Web Services   *Seattle, WA*
Software Development Engineer, AWS EC2 Load Balancing   *September 2019 - Present*
- Design, develop, and maintain ELB service that automatically distributes incoming traffic across multiple targets such as EC2 instances, IP addresses, and Lambda functions for millions of customers including largest enterprises and government agencies.
- Build system, design/develop automation and search tools, conduct investigations upon customer request as well as business up-date such as setting up Ipv6 usage in new region and software updates for customers. Cooperate on features with other AWS team such as SQS, S3, Lambda. Develop database querying tools allowing SQL queries to identify desired customers on EC2 service.
- Perform on-call duty to respond to urgent issues with desired escalation for a quick turnaround. Lead operational review meeting.

Electronic Arts   *Seattle, WA*
Software Engineer Intern   *June 2018 - September 2018*
- Designed, implemented, and tested a generic telemetry pub-sub pipeline in a large scale Spring-boot based application on Docker to distribute backend server game data for multiple data storages. Coordinated with designers for scalable future requirements.
- Configured dependencies and performed static analysis with Jenkins. Unit/integration tested on RESTful web services.

Stanford ML Group & CNN for Visual Recognition   *Palo Alto, CA*
Graduate Research Project - CNN Anomaly Detection for Safe Chest X-Ray   *April 2019 - June 2019*
- Developed methods to detect X-ray images that are unsuitable to be input into a chest X-ray DenseNet model on CheXpert data.
- Processed original data and generated anomaly X-ray datasets (under-penetrated, over-penetrated, blurred with Gaussian noise).
- Created train, validation, and test data sets and built multiple models (probability threshold, variational autoencoder, bidirectional GAN) in PyTorch to distinguish low-quality inputs and to achieve high ROC-AUC score.

Stanford Cardiovascular Biomechanics Computation Lab & Lighthaus Inc.   *SF Bay Area, CA*
Graduate Capstone Research - Stanford Virtual Heart Cardiovascular Diseases Blood Flow Model   *September 2018 - December 2018*
- Researched and implemented Lagrangian-based flow model for blood simulation used for heart surgeries with different diseases.
- Coordinated with Berkeley Shadden Lab on FSI simulation for heart mesh, wrote mesh scripts that turns velocity data into parti-cle tracers in CSR format for visualization. Incorporated model into Unity using C# for Oculus VR display and simplified pipeline.

Stanford University   *Stanford, CA*
Academic Projects
– Deep Learning SAR Iceberg/Ship Classifier - Kaggle Competition Challenge   *September 2017 - December 2017*
- Designed SVM with HOG, CNN and ResNets algorithms that identify whether a remote map is a ship or an iceberg.
- Improved accuracy with data augmentation, speckle noise reduction, and feature extraction.
– Machine Learning NIR Image Colorization - Image Rendering Using Machine Learning   *September 2018 - December 2018*
- Applied an L3 (local, linear, learned) model to find the mapping between NIR to RGB visible spectrum images with MATLAB.
- Approximated Bayer CFA algorithms with sensor data, minimized cross-validation error and performed CIELAB accuracy analysis.
– Physically based rendering - Soap Bubble Clusters with Bokeh Background. Prof. Pat Hanrahan   *April 2018 - June 2018*
- Rendered realistic soap bubbles with C++ in PBRT; 2nd prize for rendering competition with judges from NVIDIA, Pixar, Blizzard

SKILLS & INTERESTS_____

Mathematical Modeling   Numerical Linear Algebra, Partial Differential Equations, Optimization
Applied Statistics and Machine Learning   PCA, CCA, KNN, K-means, decision tree, random forest, VAE, BiGANs, SVM, CNN
Programming & Tools   Python, Java, C++, Ruby, MATLAB, R, SQL Julia, Shell Script, Tensorflow, PyTorch, Spark, AWS tools