

Tianshu Huang

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(979)229-4116

EDUCATION

University of Texas at Austin

Electrical and Computer Engineering (Honors) | GPA: 3.95

August 2017 - Present

Computer Science & Engineering:

- Data Mining (Graduate)
- Geometric Foundations of Data Science (Graduate)
- Embedded Systems Design Lab
- Computer Architecture
- Operating Systems

Mathematics:

- Probability and Stochastic Processes I (Graduate)
- Theory of Probability I (Graduate)
- Real Analysis I, II
- Convex Optimization (Graduate)

Texas A&M University College Station

Concurrent enrollment while in high school | GPA: 4.0

January 2016 - May 2017

RESEARCH EXPERIENCE

Research Assistant — Learning to Optimize

University of Texas at Austin

VITA, Department of Electrical and Computer Engineering

May 2020 - Present

- Supervised by Prof. Atlas Wang
- Created a L2O (Learning to Optimize) library framework using Tensorflow and Keras and implemented state of the art L2O methods
- Currently working on methods to improve L2O training using methods borrowed from Reinforcement Learning

Research Assistant — Drilling Automation

University of Texas at Austin

RAPID, Department of Petroleum Engineering

October 2019 - January 2020

- Supervised by Dr. Pradeepkumar Ashok
- Designed algorithm to integrate camera with laser scanner to estimate the rate of non-homogeneous flow
- Wrote reports to update industry stakeholders on project progress

Research Assistant — Clustering Methodology

Texas A&M University

Department of Statistics

June 2019 - December 2019

- Supervised by professors Debdeep Pati, Anirban Bhattacharya, and Bani Mallick
- Implemented several two-level MCMC-based Bayesian clustering algorithms
- Compared the performance of state of the art Bayesian clustering techniques under various priors and simulated data distributions
- Wrote Python package using Python/Numpy C API (up to 200x speedup over naive Python implementation)

Research Assistant — Data Analysis

Department of Construction Science

Texas A&M University

June 2019 - August 2019

- Supervised by Prof. David Jeong
- Analyzed bid item data for state-level road work projects across several states, and developed statistical models to fit the data
- Applied geostatistical analysis techniques to examine geospatial price correlation
- Implemented Inverse Distance Weighting using CUDA for fast computation (especially during cross-validation)

WORK EXPERIENCE

Teaching Assistant — Probability (EE 351K)

Austin, TX

University of Texas, Department of Electrical and Computer Engineering January 2020 - Present

Test Analysis Systems Consultant

Fremont, CA

SLD Laser

August 2018 - June 2019

- Maintained and added new features to web app created in previous internship
- Supported 30 users totalling 200,000 queries per month

Full Stack Developer Intern

Fremont, CA

SLD Laser

June 2018 - August 2018

- Designed complete web app from scratch to interactively visualize test data
- Wrote interface using the Django ORM to map legacy databases with greatly varying design and layout without existing documentation of database structure
- Designed backend authentication and token-based API authentication

ACTIVITIES

Region V Robotics Software Team Manager

University of Texas at Austin

IEEE Robotics and Automation Society

September 2018 - April 2019

- Managed team of over 15 developers
- Designed and managed software development process including code reviews
- Wrote perspective-based Computer Vision algorithm to identify obstacles and targets
- Designed autonomous navigation algorithm for multi-robot swarms

SKILLS

- **Scripting Languages:** Python, R, Javascript, Matlab
- **Compiled Languages:** C, C++, CUDA, Rust, Java
- **Miscellaneous Languages:** Verilog, ARM Assembly, CSS, LaTeX, HTML, SQL
- **Libraries and Frameworks:** Tensorflow, Python C API, Numpy/Numpy C API, OpenCV, SK-Learn, Django, Celery, D3.js, Node.js

HONORS

- Virginia & Ernest Cockrell, Jr. Scholarship in Engineering
- Cockrell School of Engineering College Scholar