

# Sicong Huang

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Data-driven and principle-driven AI for healthcare professional with **4+ years of research experience** and **1 year of industrial experience** developing machine learning models and agile software on multiple funded researches, specialized in researches on machine learning for clinical and remote health applications, with a primary focus on enhancing remote-sensing data quality, accurately monitoring cardiovascular diseases remotely, and tackling data heterogeneity in clinical settings.

## EDUCATION

**Texas A&M University**, College Station, TX December, 2025 (anticipated)  
Doctor of Philosophy (PhD) in **Computer Science** GPA: 3.82/4.0

**Texas A&M University**, College Station, TX May, 2021  
Bachelor of Science (BS) in **Computer Science** GPA: 3.72/4.0  
Minor in **Cybersecurity** **Magna Cum Lauda**

## WORK EXPERIENCE

**Nuvenu LLC** (technology startup), Fort Worth, TX

**Database Administrator and Software Engineer** May, 2020 – May, 2021

- Architected and Implemented a cloud graph database with Cypher to handle relationships and interactions among business owners, customers, and posts & reviews.
- Wrote RESTful APIs using .NET Core to enable the website to perform CRUD via HTTP requests to the database with MVC pattern
- Managed the project Agile Scrum, performed version control with DevOps, and deployed the service on Azure

**Texas A&M University**, College Station, TX

**Undergraduate Peer Teacher** at Department of Computer Science & Engineering August, 2018 – May 2021

- Assisted teaching assistants in lab sessions and tutored students across all foundational undergraduate courses from 100 to 300 levels
- Conducted weekly review sessions on CSCE 222, 312, and 313; held office hours both in-person and online

**Student Technician** at Student Computing Center and Open Access Lab August, 2017 – May 2018

- Troubleshooted technical problems related Windows and MacOS machines
- Answered questions on both technical and miscellaneous questions in-person and via-phone

## RESEARCH EXPERIENCE

**Texas A&M University**, College Station, TX

**Graduate Research Assistant** at the [STMI lab](#), advised by Dr. Bobak J. Mortazavi June, 2021 – Present

- Converted pulsatile biomarkers into health parameters with machine learning (ML) end-to-end pipeline that includes signal processing, transformation, and data-driven estimation with Python
- Analyzed and trained an accurate and automated diet monitoring ML model with R and Python
- Designed clinical IRB protocols for a National Institutes of Health (NIH) grants with hospital collaborators and analyzed collected data for automated cardiac rehabilitation monitoring
- Advised 4 undergraduate and graduate researchers, managed 3 Linux workstations, and maintained lab website with Jekyll
- Developed software tools and libraries in Python to facilitate data analysis, visualization, and modeling
- Published and submitted 2 conference papers and 1 journal on peer-reviewed venues

**Undergraduate Research Assistant** at the [STMI lab](#), advised by Dr. Bobak J. Mortazavi August, 2020 – May, 2021

- Analyzed sentiments over 250K tweets with Spark and predict their political preference
- Implemented and tuned over 1000 NLP features including Part of Speech (POS), emoticon & emoji, lemmatization, and Hashtag labeling, etc.
- Validated the framework against various Baselines (LSTM, XGBoost, SVM, etc.) with cross validation

**Undergraduate Research Scholar** at [Innovation Information lab](#), advised by Dr. Anxiao Jiang May, 2020 – May, 2021



- Classified the action of “looking down at phone” with an accuracy of 86.47% via 2D body landmarks extracted from videos and images in a supervised training
- Published undergraduate thesis and archived in OAKTrust

**Member** of Team 12<sup>th</sup> Unmanned, SAE/GM *AutoDrive Challenge*

August, 2017 – May 2019

- Synchronized GPS and LiDAR signals to CAN bus with automatic script using C and bash on Linux workstation
- Designed and implemented user interface (UI) with Qt and JavaScript

## PUBLICATIONS

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- **Sicong Huang**, Roozbeh Jafari, Bobak Mortazavi, “ArterialNet: Arterial Blood Pressure Reconstruction”, IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI) 2023 (Acceptance Rate: **24.5%**)
- Lida Zhang, **Sicong Huang**, Anurag Das, Edmund Do, Namino Glantz, Wendy Bevier, Rony Santiago, David Kerr, Ricardo Gutierrez-Osuna, and Bobak J. Mortazavi, “Joint Embedding of Food Photographs and Blood Glucose for Improved Calorie Estimation”, IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI) (Acceptance Rate: **24.5%**)
- **Sicong Huang**, Roozbeh Jafari, Bobak Mortazavi “Pulse2AI: An Adaptive Framework to Standardize and Process Pulsatile Wearable Sensor Data for Clinical Applications”, Open Journal of Engineering in Medicine and Biology (OJEMB) 2023 (under review)

## INVITED TALKS

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Research Experience for Undergraduates (REU) at Texas A&M University

July 2023

- Towards automatic diet monitoring, Tutorial on Macronutrient Estimation with Machine Learning

## AWARDS

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**SAE/GM AutoDrive Challenge Year 2 Competition**, Ann Arbor, MI

May 2019

- Third Place in Overall Competition

**SAE/GM AutoDrive Challenge Year 1 Competition**, Yuma, AZ

May 2018

- **First Place** in Object Detection & Avoidance, **Second Place** in Overall Competition

## SKILLS

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Languages: **Python**, **MATLAB**, LaTeX, R, C++, Java, C#, JavaScript, SQL, Cypher, JMP

Tools/Packages: **Pytorch**, **Sklearn**, **Weights & Bias**, React, TF/Keras, Spark, matplotlib, seaborn

Technologies/Frameworks: **Linux**, .NET, CI/CD, Scrum/Agile, AWS, Azure