

SICONG HUANG

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EDUCATION

Texas A&M University

Jun 2021 – May 2025

Doctor of Philosophy - Computer Science

College Station, TX

Texas A&M University

Aug 2017 – May 2021

Bachelor of Science - Computer Science; Minor - Cybersecurity

College Station, TX

RESEARCH EXPERIENCE

STMI Lab | Graduate Research Assistant | Advisor: Dr. Bobak Mortazavi

Jun 2021 – present

- **Innovating remote health solutions with machine learning (ML) and wearable sensors**

Deployed end-to-end pipeline for continuous and noninvasive blood pressure monitoring

Deployed an accurate calorie prediction model for automated diet monitoring and glucose management

Collaborated with the hospital to design IRB protocols for automatic cardiac rehabilitation monitoring

Admin of lab workstations, inventory, and website

Advising 4 undergraduate students across two research projects

STMI Lab | Undergraduate Research Assistant | Advisor: Dr. Bobak Mortazavi

Aug 2020 – May 2021

- **Innovating automatic diet monitoring with ML and wearable sensors**

Designed collection pipeline for a trial of 50+ participants using both off-the-shelf and self-developed methods

Developed personalized nutrition intake model to predict macronutrient decomposition

Implemented a multi-modal prediction framework by incorporating time-series CGM readings and food images

- **Analyzing Twitter User Sentiments**

Processed text embedding from over 250,000 tweets and Generated 1000 NLP features with NLTK

Examined and validated the framework against various Baseline methods (LSTM, XGBoost, Random Forest, SVM, etc.)

Information Innovation Lab | Student Researcher | Advisor: Dr. Anxiao Jiang

Aug 2019 – Jul 2020

- **Recognizing indoor body and facial expression with ML**

Extracted 17+ 2D facial landmarks from videos and images

Recognized the action of “looking down at phone” with F1 score of 86.47%

Published an undergraduate research thesis on OAKTrust

PUBLICATION

- **Sicong Huang**, Roozbeh Jafari, Bobak Mortazavi, *ArterialNet: Arterial Blood Pressure Reconstruction*, IEEE BHI'23

(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 BHI'23 (Acceptance Rate: 24.5%)

INVITED TALKS

Research Experience for Undergraduates | Texas A&M University

Jul 2023

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

AWARDS

SAE/GM AutoDrive Challenge Year 2 Competition | MCity, 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

TECHNICAL SKILLS

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**, Version Control, .NET, CI/CD, Scrum/Agile, Cloud Computing