# HSIAO-HUA CHENG

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Looking for full-time Software Engineer position in 2021 spring

## EDUCATION

**University of Texas at Austin**                                                Aug. 2019 - Dec. 2020
*M.S. in Computer Science, GPA: 3.95/4.0*                                                *Austin, TX, U.S.*

· Selected Courses: Database Systems, Deep Learning Seminar, Natural Language Processing, Algorithms: Techniqs&Thry

**National Taiwan University**                                                   Sep. 2014 - Jun. 2019
*B.S. in Computer Science and Information Engineering, GPA: 4.14/4.3*                     *Taipei, Taiwan*

· Selected Courses: Deep Learning, Natural Language Processing, Web Retrieval and Mining, Digital Speech Processing
· Presidential Award in Spring 2015 (Top 5% among 150 students in the department)

## EXPERIENCE

**Amazon.com, Inc.**                                                             May. 2020 - Aug. 2020
*Software Development Engineer Intern*                            *Santa Clara, CA, U.S. (Remote in TX, U.S)*

· Built a diff analysis tool with **Java** and **JavaScript** that helps engineers point out search relevance gaps. Realized by hitting two versions of search service, comparing search responses and displaying the difference by interactive tables.
· Developed a search comparison recall tool in **Java** and **JavaScript** that explores the effectiveness of an **Elasticsearch** query change. Displayed the changes via self-designed recall metrics and visualization of ES top matching hits.

**KKBOX Inc.**                                                                  Apr. 2019 - Jul. 2019
*Machine Learning Intern*                                                                *Taipei, Taiwan*

· Enhanced **5%** on F1 score of intention classification model in the smart speaker by applying attention mechanism.
· Implemented a new architecture of the smart speaker to provide transparent responses to users in **Python**.

**Machine Intelligence and Understanding Lab**                                   Jul. 2018 - Jun. 2019
*Undergraduate Research Student, Advisor: Prof. Yun-Nung Chen*                  *National Taiwan University*

· Constructed a multi-stage fusion model to integrate features from different modalities effectively with **Pytorch**.
· Outperformed the released baseline by **12%** in CIDEr, **7%** in Bleu score, and **12%** in human evaluation.

**Machine Discovery and Social Network Mining Lab**                              Jul. 2016 - Jun. 2019
*Undergraduate Research Student, Advisor: Prof. Shou-De Lin*                    *National Taiwan University*

· Developed a training method for Entity Network to deal with unseen entities in deep reasoning tasks.
· Improved accuracy by **12%** over 7/13 of tasks in bAbI dataset when dataset contains unseen tokens.

**Network System and Service Laboratory, Academia Sinica**                       Jul. 2016 - Aug. 2016
*Software Engineer Intern, Advisor: Prof. Jane W. S. Liu*                                 *Taipei, Taiwan*

· Designed the interface and functionality of a Beacon manager for architects to easily add, remove and check the coverage of signals of all implemented beacons in a building.
· Built a Beacon Manager as a plugin in Revit, which is a software for architectural design.

## PUBLICATION

Y.-T. Yeh, T.-C. Lin, **H.-H. Cheng**, Y.-H. Deng, S.-Y Su, Y.-N. Chen (2019) "Reactive Multi-Stage Feature Fusion for Multimodal Dialogue Modeling" **AAAI 2019**, DSTC 7 Workshop

## AWARDS

**KDD Cup 2018: 7th place over 662 teams**                                                  May. 2018

· Collected historical and forecasting weather information from World Weather and performed feature engineering.
· Designed tree-based models to predict air quality of next 48 hours for monitoring stations in Beijing and London.

## SKILLS

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|---|---|
| **Programming languages** | Python, C/C++, Java, JavaScript, SQL, HTML, CSS |
| **Tools** | Linux, Git, PyTorch, JQuery |