

# CHIH CHIN TSAI

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## EDUCATION

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

Jan. 2020 – Apr. 2022 (expected)

M.S. in Computer Engineering. GPA: **4.0/4.0**

**National Cheng Kung University**, Tainan, Taiwan

Sep. 2010 – June 2014

B.S. in Chemical Engineering. GPA: **3.5/4.0**

## SKILLS

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- Programming Languages: Python, Java, JavaScript, Node.js, CSS, HTML5
- Platform: Django, Express, jQuery, React.js & Redux, MySQL, PostgreSQL, Ubuntu, Google App Engine

## PROJECTS

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### Student's Profile Tracking System Project

Feb. 2020 – May. 2020

Developed a tracking system for CS department staff members to record students' profiles

- Adapted **Agile development** style and successfully achieved all the customer requirements **within 3 months**
- Deployed a production web on **Google App Engine** in conjunction with **MySQL** in **Ubuntu** environment
- Implemented **Cloud Drive**, **CSV Parser**, and **User Authentication** based on customer feedback
- URL: <https://lateral-insight-272819.appspot.com>

### Full Stack Facial Recognition App

Feb. 2020 – June. 2020

Applied **clarifai face detection api** to locate the human faces of an image link uploaded by users

- Completed the frontend with **React.js** to display an interactive UI in reusable components manner
- Employed **Express.js** and **PostgreSQL** to serve the backend and followed **RESTful API** design pattern
- Deployed the project on Heroku URL: <https://smart-brain3344.herokuapp.com>

### Full Stack Mailing Web App - (React.js + Node.js)

May. 2020 – Aug. 2020

Built a sending mail web app integrated **Google OAuth2.0** login API and **Stripe** credit based payment system

- Used **Passport.js** & **MongoDB** to set a OAuth login system and memorized login status via **cookie-session**
- Linked up **SendGrid** service to send mails and collected recipient feedback via WebHook mail click bottom
- Applied **Redux** package to simplify frontend web app's state management system
- URL: <https://agile-castle-89662.herokuapp.com>

### RosenBrock Optimization Project

Mar. 2020 – May. 2020

Used python to solve a mathematical modeling problem of RosenBrock function

- Refactored a given source code into a Python **OOD** package and built a test suite using **PyTest**
- Reduced the math model code's runtime from **216ms to 13ms** (10 times faster) via **refactoring**
- Utilized **Matplotlib** to visualize **searching-the-minimum** process in 2D map - plotted the search curves
- URL: [https://github.com/CCTSAI-Tony/CSCE689\\_FINAL\\_PROJECT](https://github.com/CCTSAI-Tony/CSCE689_FINAL_PROJECT)

## WORK EXPERIENCE

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**TSMC inc.** Hsinchu, Taiwan

Aug. 2016 – Nov. 2019

*Full time* process engineer

- Developed Cu/Al process flow and improved **yield rate** of Microelectromechanical system (MEMS) product to **98 %**. Used correlation tools to analyze charts like scatter plot, histogram to inspect product's quality
- Tuned up a validate software to detect weak patterns from reticle's layout. Expected to improve the yield loss from **5 % to be less than 1 %** and set up a new rule for reticle layout design