

# Gustavo Aguilar

[gustavoaguilar91@gmail.com](mailto:gustavoaguilar91@gmail.com) ♦ +1 (832) 217 9075

[linkedin.com/in/gustavoag91](https://linkedin.com/in/gustavoag91) ♦ [github.com/gaguilar](https://github.com/gaguilar) ♦ [gustavoaguilar.io](https://gustavoaguilar.io)

## EDUCATION

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### Ph.D. in Computer Science

Aug 2016 - May 2021 (Expected)

University of Houston

Houston, TX

Research: Natural Language Processing, Advisor: Dr. Thamar Solorio

GPA: 3.89 / 4.0

### Bachelor of Science in Computer Science

Mar 2010 - Oct 2015

Universidad Centroamericana José Simeón Cañas

La Libertad - El Salvador

Thesis: VR Algorithm Using Kinect Camera for Amputees Undergoing Rehabilitation

GPA: 8.31 / 10.0 — Top 3 in class of 2015

## EXPERIENCE

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### Research Assistant

Sep 2016 - Present

University of Houston at [RiTUAL lab](#), Dr. Thamar Solorio

Houston, TX

- Named entity recognition on user-generated text
- English-Spanish code-switching on social media data

### Applied Scientist (Intern)

May 2019 - August 2019

Amazon, Alexa AI, Dr. Benjamin Yao

Seattle, WA

- Conducted research on knowledge distillation for QA relevance
- Proposed a new method for internal knowledge distillation from BERT

### Applied Scientist (Intern)

May 2018 - Aug 2018

Amazon, Alexa Speech, Dr. Chao Wang

Cambridge, MA

- Conducted research on emotion recognition with multimodal data
- Explored teacher-student and multi-view learning to induce semantics into acoustic models

### Game Developer

Nov 2013 - Jul 2016

Beyond Games Inc.

San Salvador, El Salvador

- Programmed in different areas of game development (Gameplay, Graphics and AI)
- Co-led a team of 14 engineers and reviewed the team's code
- Presented updates of the team's progress to senior management

### Software Developer

Feb 2013 - Oct 2013

Avianca Airlines

La Libertad, El Salvador

- Developed an ETL software for Avianca's subsidiaries
- Modified peripheral applications to work with Oracle Enterprise Business Suite (EBS)

## TECHNICAL SKILLS

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### Programming Languages

Python, C#, C/C++, F#, Java, Elixir, PLT Scheme, Prolog

### Web Programming

JavaScript, NodeJS, ReactJS, HTML/CSS, PHP, Web Socket, RestWS

### Database Engines

MongoDB, Oracle, MySQL, PostgreSQL, SQL Server

### Libraries

Scikit-learn, NLTK, spaCy, Reactive Programming (Rx), OpenGL

### Deep Learning Libraries

PyTorch, Keras, TensorFlow

### Other skills

Git, SVN, Unity3D

## HONORS AND AWARDS

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- Recipient of the [2019 Snap Inc. Research Fellowship](#)
- Scholarships to attend [2019 ACM Richard Tapia](#) and [2019 SACNAS National Diversity in STEM](#) conferences
- Recipient of the [2019 Facebook PyTorch Scholarship](#) for the Udacity Deep Reinforcement Learning Nanodegree
- Recipient of the [2019 Facebook PyTorch Scholarship](#) for the [Udacity Deep Learning Nanodegree](#)
- Scholarship to attend the CRA Grad Cohort Workshop for URMD, 2019
- [Best Junior Ph.D. Student Award](#) granted by the Computer Science department of the Univ. of Houston, 2018
- Univ. of Houston Alumni Association (UHAA) and Natural Sciences and Mathematics (NSM) Scholarship, 2018
- First place on [Noisy User-generated Text \(W-NUT\) shared task](#) at EMNLP 2017
- Dean's List, 2010-2014, Universidad Centroamericana José Simeón Cañas (UCA)
- [Absolute chess champion of El Salvador in 2012](#)
- Governmental award for sporting excellence in chess, El Salvador 2008
- Absolute U20 chess champion of El Salvador at the age of 15, 2007
- Central American & Caribbean U14 and U16 chess champion, 2006-2008

## RESEARCH ACTIVITIES AND SERVICES

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- Co-organizer of the SemEval-2020 Task 9 on [Sentiment Analysis for Code-Mixed Social Media Text](#).
- Speaker at [Data Science El Salvador](#) community, December 2018.
- Speaker at the [Computer Science Focus on Research \(FOR\)](#) seminars at the Univ. of Houston, Fall 2018
- Co-organizer of the third workshop on [Computational Approaches to Linguistic Code-Switching \(CALCS\)](#), collocated with ACL 2018 (Melbourne, AU). Leading the shared task on Named Entity Recognition on English-Spanish code-switched data.

## PUBLICATIONS

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- **Gustavo Aguilar**, Yuan Ling, Yu Zhang, Benjamin Yao, Xing Fan, and Edward Guo. Knowledge Distillation from Internal Representations. **[Under review]**
- **Gustavo Aguilar**, Viktor Rozgić, Weiran Wang and Chao Wang. [Multimodal and Multi-view Models for Emotion Recognition](#). **ACL 2019**. Florence, Italy.
- **Gustavo Aguilar**, Fahad AlGhamdi, Victor Soto, Mona Diab, Julia Hirschberg and Thamar Solorio. [Named Entity Recognition on Code-switched Data: Overview of the CALCS 2018 Shared Task](#). In *Proceedings of the Third Workshop on Computational Approaches to Linguistic Code-Switching*, **ACL 2018**. Melbourne, Australia.
- **Gustavo Aguilar**, A. Pastor López, Fabio A. González and Thamar Solorio. [Modeling Noisiness to Recognize Named Entities using Multitask Neural Networks on Social Media](#). **NAACL 2018**. New Orleans, Louisiana.
- **Gustavo Aguilar**, Suraj Maharjan, A. Pastor López, and Thamar Solorio. [A Multi-task Approach for Named Entity Recognition on Social Media Data](#). In *Proceedings of the 3rd Workshop on Noisy User-generated Text*, **EMNLP 2017**. Copenhagen, Denmark — **1st place in all the evaluation categories**.
- **Gustavo Aguilar**, Oscar Dueñas, and Guillermo Cortés (advisor). [Diseño de Algoritmo para Rehabilitación Virtual basado en la Cámara Kinect](#) (Virtual Reality Algorithm Using Kinect Camera for Amputees Undergoing Rehabilitation), 2015 — short article based on my bachelor's thesis.

## OTHER

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- English and Spanish speaker
- Professional chess player for 12 years