# Brian **Thompson**

SOFTWARE DEVELOPER ENGINEER · MASTERS IN COMPUTER SCIENCE

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## Work Experience

**Amazon**                                                                                  *Seattle, WA*

SOFTWARE DEVELOPER ENGINEER 2 ON AMAZON BUSINESS PERSONALIZATION                 *July 2018 - PRESENT*

- Implemented and ran 20 A/B experiments creating or modifying recommenders.
- Total experiment wins resulted in an increase of $240 million annualized order purchase sales (OPS)
- Implemented daily builds in python which compute item-to-item similarities datasets to be used in recommenders
- Migrated front-end rendering of team's recommenders to new platform built on TypeScript and Kata (html templating language)
- Implemented a community detection algorithm in python which performs graph clustering on our item-to-item purchase similarities graph
- Created a daily build which computes discounted best sellers using various AWS technologies such as EMR (Java), SNS, SQS and S3
- Expanded our business pricing and deals recommenders across Amazon including on Detail page, Cart, Thank-you page and Your-orders
- Led effort to run experiments recommending bulk items to Amazon Business customers across the site

**Ag-Sensus, LLC**                                                                        *Champaign, IL*

IOS DEVELOPER FOR DJI DRONE AGRICULTURE SOLUTIONS                                  *Oct. 2016 - May 2018*

- Computed waypoints given a field boundary that guide the drone through flight while it takes measurements
- Wrote code in C++ and Swift that measured crop height via LIDAR in a DJI manifold, sent to the iPad and overlaid the height graph on a map
- Designed and implemented a user interface allowing farmers to analyze past flight data from multiple fields

**The Boeing Company**                                                                    *St. Louis, MO*

SOFTWARE ENGINEER INTERN ON THE F-15 TRAINING SYSTEMS AND SERVICES TEAM            *May 2016 - Aug. 2016*

- Modified and enhanced F-15 3D model with Blender and imported into X-Plane to be used with the F-15 Trainer
- Rewrote X-Plane plugin written in C++ to receive standardized network packets created by Boeing instead of custom messages

PROGRAMMER ANALYST ON THE SHOP FLOOR TEAM                                          *May 2015 - Aug. 2015*

- Supported testing team by ensuring functionality of shop floor applications for military aircraft assembly
- Used SQL to query and update an oracle database; added functionality to UNIX shell scripts; created excel macros to generate SQL files

## Education

**University of Illinois**                                                              *Urbana-Champaign*

BS AND MS IN COMPUTER SCIENCE                                                      *Aug. 2013 - May. 2018*

- Computer Science student in the College of Engineering
- Undergrad GPA: 3.83, Graduate GPA: 4.00

RELEVANT COURSEWORK

- Core courses: Data Structures & Algorithms, Algorithms and Models of Computation, System Programming, Programming Languages
- Tech electives: Data Mining, A.I., Applied Machine Learning, Communication Networks, Computational Photography, Computer Vision, Virtual Reality, Social Sensing, Interactive Computer Graphics, Data Visualization, Real-time and Cyber-physical Systems

## Projects

**Sensory Augmentation iOS Apps**

HTTPS://GITHUB.COM/BRIANRT/TEXT-TO-BUZZ, HTTPS://GITHUB.COM/BRIANRT/VISAURAL

- Created an iOS app which connects via Bluetooth to a Neosensory Buzz (wrist band with four controllable motors)
- Converted sentences to a sequence of phonemes, and mapped these phonemes to distinct vibrational patterns on the Buzz
- Created separate iOS app which takes frames from a video and converts to a distinct sound using spectrograms
- The goal was to train myself to be able to "see" through audio or understand language through vibrational patterns

**Line Times iOS App**

HTTPS://GITHUB.COM/BRIANRT/LINE-TIMES

- Created iOS app which used crowdsourced entries to display wait times at restaurants and bars on UIUC campus
- Used Swift for app and Firebase for user authentication, scheduled jobs and data storage

**CEO Hunter Chrome Extension**

HTTPS://GITHUB.COM/BRIANRT/CEO-HUNTER

- Created Chrome extension that allows users to retrieve the CEO and their email from a provided company, 700+ users.
- Used javascript to scrape multiple sites (Crunchbase, LinkedIn, etc.) to retrieve CEO, and generated likely email using mailbox layer API

# Skills

**Programming / Tools**   Java; Python; Swift; React; TypeScript/JavaScript; HTML/CSS; C++; C; Xcode; MATLAB; AWS; Git;