Bryant McArthur

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Education

Master of Computer Science		**December 2024**
Texas A&M University		*College Station, Texas*

- GPA: 3.86/4.00 | GRE: 324 | Machine Learning Engineering
- Data Mining and Analysis | Deep Learning & AI | Distributed Systems & Cloud Computing
- Reinforcement Learning | Algorithms & Optimization | Software Engineering

BS, Applied & Computational Mathematics Emphasis (ACME)		**April 2023**
Brigham Young University		*Provo, Utah*

- GPA: 3.93/4.00 | ACT: 35 | Concentration: Linguistics
- Full Academic Scholarship | Machine Translation | Natural Language Processing

Experience

Machine Learning Engineer	**June 2024 – Present**
Ditto	*Orem, Utah*

- Designed Cross-Lingual Prosody Mapping Text-To-Speech Model with Speaker Voice Cloning

Director of Machine Learning	**May 2022 – January 2024**
Addavox	*Lehi, Utah*

- Developed, Customized and Trained TTS Model for Voice Synthesis Retaining Vocal Qualities of Encoded Speech
- Engineered "Lip Sync" Model for Synchronizing Vocal Audio to Visual Mouth Movements in High-Dim Space

**Lead Consultant	Founding Partner	CFO**	**January 2022 – Present**
Parsha Works	*Provo, Utah*

- Deployed Full-Stack Event Ticketing Software MVP for $50,000 in Three Months
- Built Software for Automated, Customized, and Timely Real Estate Leads

Sales Rep Team Lead	**April 2020 – September 2021**
Moxie Services	*Dallas, Texas*

- Led the Company Nationwide Consistently in Individual Sales Door-to-Door on a Day-to-Day Basis
- Generated and Responsible for over $1 Million in Revenue for Moxie

Skills

- Python, R, Ruby, C++, html | Pytorch, Tensorflow, Cuda | Gradient Descent
- Data Structures | Unix Shell | Linear and Nonlinear Analysis
- Statistics | Multivariable Calculus | Singular Value Decomposition
- Numerical Linear Algebra | ODEs, PDEs | Fourier Analysis, Kalman Filter

Relevant Projects

Low Rank Adaptation	**December 2023**

- Finetuned Stable Diffusion Model to Generate Custom Pokemon Using Low-Rank Adaptation (LoRA)

Wildfire Predictions	**April 2023**

- Analyzed Wildfire Data Using ARIMA, HMM, Kalman Filter, and Prophet Models
- Accurately Predicted When and Where the Next Wildfires will Strike on a Regional Basis

Multilingual Neural Machine Translation Model	**March 2022**

- Cleaned and Multi-way Aligned Data to Train a Complete MNMT System for Polish, Spanish, Czech, English
- Analyzed Bleu Scores with Corresponding Bilingual Models on Untrained Language Pairs

Speech to Speech Translation Model	**February 2022**

- Created Pipeline using Automatic Speech Recognition, Text to Text Machine Translation and Foreign Language Speech Synthesizer Models to Recognize Audio input and Output Translated Foreign Speech

Volunteer Work

Club Officer	**January 2024 – President**
Texas A&M Men's Soccer	*College Station, Texas*

- As Elected DK Coordinator: Manage Alumni Fundraising Events, Allocate Financials, Play and Compete with Team

Full-Time Volunteer Representative & Assistant to the President	**January 2018 – February 2020**
The Church of Jesus Christ of Latter-day Saints	*Warsaw, Poland*

- Analyzed Statistics and Led Weekly Trainings to Achieve Group Improvement Goals for Entire Mission