

# Alan Deng

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## PROJECT EXPERIENCE

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### World Happiness Dashboard

- Built an interactive dashboard analyzing World Happiness Index rankings in relation to population, education spending, and migration trends, using **Python**, **SQL**, and **JavaScript**.
- Cleaned and standardized diverse global datasets in **Python (Pandas)** and consolidated them for analysis, stored in **SQL** and exported as CSV for use in web visualizations.
- Created heat maps with **jVectorMap** and **Plotly** stacked bar graphs to provide a comparative view of happiness scores, enabling dynamic filtering and year-based trend analysis.

### Pet Image Classification Model

- Developed and deployed a deep learning CNN classifier with **TensorFlow** (Python) to classify six pet types, achieving 86.67% accuracy and optimizing performance.
- Collected and processed thousands of pet images via web scraping (**BeautifulSoup**, **Python**) from Flickr and Imgur to build a diverse training dataset.
- Implemented a **Flask API** on **AWS EC2** for real-time image classification, improving accuracy through hyperparameter tuning, data augmentation, and overfitting reduction.

## EXPERIENCE

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### BIM Coordinator

Toronto, ON

*Black & McDonald Limited*

Feb 2022 - Jan 2023

- Managed and analyzed datasets to optimize planning process and team collaboration.
- Developed and maintained models, ensuring timely updates and smooth project execution.
- Collaborated with stakeholders to ensure data compliance and improve reporting accuracy.

### Sales Associate

Toronto, ON

*Hercules Stainless Steel Fabrication*

Sep 2015 - Present

- Monitored and analyzed inventory data in **Excel**, maintaining material level above 30%.
- Translate client specifications, ensuring data accuracy and project alignment.

## Education

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### University of Toronto School of Continue Studies

Completed Online

*Data Analytics BootCamp*

Jun 2023

- Mastered statistical modeling, forecasting, pivot tables, and **VBA scripting** in **Excel**.
- Proficient in **Python (NumPy, Pandas, Matplotlib)**, **SQL**, and web data handling.
- Skilled in **SQL, PostgreSQL, MongoDB**, and the ETL process for organized data storage.
- Created interactive data visuals with **HTML, CSS, JavaScript**, and **Leaflet** for web sharing.

### Ontario Tech University

Oshawa, ON

*Bachelor of Engineering (Honors), Electrical*

- Courses: Linear Algebra, Discrete Math, Probability of Random Signals, Differential Equation.

## SKILLS & INTERESTS

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**Skills:** Data Cleaning, Problem Solving, Data Visualization, Machine Learning, Adaptability

**Languages:** English(Native), Cantonese & Mandarin Chinese(Proficient).

**Interest:** Volleyball, Basketball, Reading, 3D Modeling, 3D Printing, Soldering, Welding, Board Game.