

# Joshua Kim

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## Education

**Oregon State University** | GPA: 3.86 / 4.00  
Corvallis, OR

Bachelor of Science in Computer Science

**Bellevue College** | GPA: 3.89 / 4.00  
Bellevue, WA

Associates of Science in Chemical Engineering

**Relevant Languages/Skills:** Python (4+ years), C (2+ years), JavaScript (1+ years) | Software Development (2+ years), Automated Testing (2+ year), Data Processing/Pipelining (1+ years), Machine Learning (+2 years) | Flask, Node.JS, RESTful API, HTML/CSS, MySQL, MongoDB, TensorFlow/Keras | Linux | GIT | Agile

## Work Experience

- **Python/AI/ML Instructor** | *ID Tech Camps* *June 2023 – Aug 2024*
  - Instructed and mentored students in classes of 8-14, guiding them through hands-on coding projects to build technical proficiency.
  - Introduced fundamental AI/ML concepts, teaching neural networks and training image recognition models.
  - Developed students' problem-solving skills by designing interactive exercises focused on algorithmic thinking and real-world AI applications.
  - Fostered confidence in CS by adapting teaching methods to different learning styles and encouraged collaborative, project-based learning.
- **Research Assistant** | *Bellevue College* *June 2019 – May 2021*
  - Conducted research on biofuel production, designing a study to convert locally sourced microalgae into sustainable energy solutions.
  - Utilized advanced field sampling equipment and analytical laboratory techniques to collect, process, and analyze biological samples.
  - Performed statistical data analysis and error modeling to assess experimental outcomes and optimize conversion efficiency.

## Projects

- **Top-n Music Genre Classification Neural Network**
  - Designed and structured a Convolutional Neural Network to classify music genres based on audio features using Keras and TensorFlow.
  - Built a Mel-Frequency Cepstral Coefficient pre-processing script to convert audio into training, testing, and validation data with Librosa, NumPy, and Scikit-learn.
  - Developed a pipeline to import audio clips from datasets to be pre-processed with error handling.
  - Built data visualization analysis for observing accuracy/loss over multiple epochs with Matplotlib.
- **Supply Chain Database Application**
  - Designed a Full Stack administrative application for supply chain Global Bread Co. with CRUD functionality for managing customer orders and product inventory.
  - Built a secure web interface with Flask/HTML/CSS/JavaScript, implementing role-based authentication for administrative access.
  - Architected and normalized a relational database schema using MariaDB/MySQL, optimizing entity and customer relationships for data integrity and scalability.
  - Developed RESTful API endpoints to facilitate seamless data retrieval and updates between front/back end.
  - Deployed the application on a cloud-based environment, ensuring high availability and scalability.
- **Craigslist Web Scraper**
  - Engineered a Python-based web scraping application to extract, filter, and analyze car listings from Craigslist, leveraging BeautifulSoup and request for structured data retrieval.
  - Designed a modular, Zero-MQ-based microservice to provide intelligent filtering suggestions, enhancing user experience and search efficiency.
  - Developed a flexible data export pipeline, allowing users to save filtered results in multiple formats.
- **Self-trained Image Recognition Model**
  - Developed a machine learning model to classify hand gestures for with confidence scoring.
  - Integrated a real-time webcam interface for live image capture and gesture prediction.
  - Optimized model performance with image preprocessing, normalization, and automated decision-making.