

Bobae Jeon

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Summary — Computer Vision & ML Engineer with production-level experience building deep learning systems for real-world video processing. Skilled in Python, machine learning frameworks, AWS, and Docker. Experienced in scalable ML pipelines, 3D face modeling, and generative models. Published at Eurographics 2025 for work on video dubbing via video/face synthesis.

Skills

Machine Learning Tools: PyTorch, TensorFlow, Hugging Face, OpenCV, Scikit-learn, dlib

Languages: Python, Java, C++, C, JavaScript

Cloud & DevOps: AWS (SageMaker, S3, EC2), Docker

OS: Ubuntu, MacOS, Windows

Tools: CUDA toolkit, Git, ComfyUI, Android Studio, MySQL, Firebase

Machine Learning: Generative Models, Face/key-point Detection, 3D Face Modeling, Model Evaluation, Multi-GPU Training

Experience

Graduate Research Assistant (Full-time)

Sep 2022 – May 2025

Concordia University, Montreal, QC, CAN

- Led development of a production-ready few-shot (less than 10s input) generative pipeline for high-fidelity, natural lip-sync video leveraging state-of-the-art computer vision and generative models.
- Achieved high-quality visual dubbing accepted at Eurographics 2025.
- Managed full ML lifecycle from model architecture to cloud deployment using Docker and AWS.
- Led experimentation across model variants to optimize for visual quality and temporal consistency.

Machine Learning Research Intern (Full-time)

Sep 2022 – May 2024

AudioZ, Montreal, QC, CAN

- Built a production-ready deep learning system for few-shot lip-sync video generation using real-world video inputs.
- Developed inference pipelines and contributed to testing and integration for real-world deployment scenarios.
- Collaborated with industry professionals on integrating and testing new architectural designs in a rapid, feedback-driven loop.

Teaching Assistant (Part-time)

Jan 2023 – Dec 2024

Concordia University, Montreal, QC, CAN

- Taught and assessed courses in Java programming, data structures, and statistics, focusing on algorithm efficiency and object-oriented programming.

Software Engineer Intern (Full-time)

Aug 2021 – Dec 2021

Gugak Broadcasting Foundation, Seoul, KOR

- Processed and edited audio metadata for an open API, contributing to public media data services.

Education

Master's degree in Computer Science (Thesis)

Sep 2022 – May 2025

Concordia University, Montreal, QC, CAN

Research student at the 3D Graphics Lab, advised by Dr. Sudhir Mudur and Dr. Tiberiu Popa.

B.Sc. in Computer Science & Engineering, B.A. in Economics

Mar 2017 – Aug 2021

Soongsil University, Seoul, KOR

Publications

Jeon, Bobae, Eric Paquette, Sudhir Mudur, and Tiberiu Popa. "Personalized Visual Dubbing through Virtual Dubber and Full Head Reenactment" In Eurographics (Short Papers). 2025. (presented)

Honors

Top prize — Open Data Competition 2021, Ministry of the Interior and Safety, KOR

Dec 2021

Competition for open data-driven web/mobile application developments

Accepted Finalist — Open Data Application Competition 2022, Daejeon, KOR

Aug 2022

Competition for open data-driven web/mobile application developments

Concordia Split Merit Scholarship

Fall 2022

Projects

Video & Face Synthesis Pipeline (Visual Dubbing)

Sep 2022 – May 2025

Computer graphics & Generative AI research

- Developed high-fidelity face synthesis pipeline under few-shot constraints (pretrained with large image dataset).
- Trained, fine-tuned, and benchmarked multiple generative models (GANs, AEs, diffusion) to find optimal fit for high-fidelity face synthesis.
- Integrated components into an end-to-end visual dubbing system deployed on the cloud.
- Skills: PyTorch, AWS, generative models, OpenCV

AI Trainer Program

Jul 2021 – Oct 2021

Computer vision, Pose Estimation

- Developed a pose analysis system using MediaPipe to track joint angles for exercise correction.
- Skills: Python, OpenCV, MediaPipe

Learning Assistant App

May 2022 – Aug 2022

Android development

- Built an Android app to deliver structured learning roadmaps using public education data APIs.
- Responsible for data preprocessing and Android development (Java).
- Skills: Android Studio, Java, Firebase

Volunteer Program Helper App

Nov 2021 – Jun 2022

Android development

- Developed a mobile app for volunteers to report and care for street trees in Seoul.
- Responsible for database design and Android development
- Skills: Android Studio, Java, Firebase