ABDUL SAMI

+82-010-6772-9532 abdulsamimahar001@gmail.com abdulsami101.github.io

Abdul Sami | abdulsami101 | Abdul Sami

Seoul, South Korea

OBJECTIVE

Motivated machine learning researcher with a solid foundation in deep learning and generative modeling. Currently specializing in Diffusion Models for image generation, with a strong focus on computer vision and real-world AI applications. Passionate about advancing multimodal generative systems and contributing to impactful, cutting-edge research.

EDUCATION

- **Soongsil University[]** *Sep 2023 – Aug 2025 (Expected)*
  M.Sc. in Computer Science Seoul, South Korea
  - **CGPA:** 4.16 / 4.5
- **Mehran University of Engineering and Technology SZAB Campus[]** *Nov 2018 – Dec 2022*
  B.E. in Software Engineering Khairpur mir's, Pakistan
  - **CGPA:** 3.73 / 4.0

EXPERIENCE

- **System Software Lab []** *Sep 2023 – Present*
  Research Assistant | *Soongsil University* Seoul, South Korea
  - Conducting advanced research in machine learning and generative modeling, with a focus on diffusion models for image generation and font synthesis.
  - Developed a novel few-shot conditional diffusion pipeline for structurally accurate multilingual font generation across Korean, Chinese, and English scripts.
  - Trained and evaluated YOLOv8 models for object detection; supported experiments in image segmentation and classification tasks.
  - Contributed to multiple publications: one accepted at an international conference (ICOIN 2025), one journal paper under final review, and another in preparation.
  - Built and fine-tuned models using PyTorch, incorporating VGG-based feature extraction, CLIP embeddings, OpenCV processing, and reference-style input conditioning.
  - Led dataset preparation, model training, and metric-driven evaluation (SSIM, LPIPS, FID) for font generation and vision-related projects.
  - Actively collaborated in a fast-paced research environment exploring LLM integration and multimodal generative AI systems.
- **Soongsil University []** *Mar 2024 – Present*
  Teaching Assistant – *Artificial Intelligence & Deep Learning* Seoul, South Korea
  - Supporting graduate-level courses in Artificial Intelligence and Deep Learning for Master's students.
  - Conducting hands-on coding tutorials and lab sessions focused on neural networks, CNNs, and modern deep learning frameworks (e.g., PyTorch).
  - Delivering occasional lectures and assisting with conceptual understanding of key topics in generative models and applied AI.
  - Designing mid-term and final exams, grading assignments, and providing one-on-one academic guidance to students.

PROJECTS

- **DK-Font: Diffusion-Based Multilingual Font Generation** *Month Year - Month Year*
  Tools: Diffusion Models · PyTorch · U-Net · VGG-19 · ResNet · Perceptual Loss · Style Encoding []
  - Designed and implemented a novel diffusion-based model for high-fidelity Font generation across Korean, Chinese, and English scripts.
  - Introduced phonetic-aware encoding, multi-reference style learning, and a ResNet-based iterative correction mechanism to enhance structural accuracy and style consistency.
  - Achieved state-of-the-art performance, outperforming Diff-Font and MX-Font on SSIM, FID, and LPIPS metrics.
  - Enabled few-shot generation of complete font sets including personal handwriting styles using only a few reference samples.

- **Hangul Classifier: Korean Font Classifier Using Deep CNN** *Month Year*
  Tools: Python · PyTorch · AlexNet · torchvision · PIL [GitHub]
  - Engineered a high-performance image classification system to recognize diverse Hangul font styles using a custom AlexNet architecture in PyTorch.
  - Developed a complete pipeline for training, evaluation, and real-time single-image prediction.
  - Achieved over 95% accuracy on the test dataset, demonstrating strong model generalization across multiple font styles.
- **Real-Time Face Recognition Attendance System** *Month Year*
  Tools: Python · OpenCV · Face Recognition · SQLite/MySQL · Tkinter/PyQt · Computer Vision [GitHub]
  - Built a real-time computer vision system that recognizes student faces from live video and marks attendance automatically.
  - Developed a desktop application with an intuitive UI for face registration, verification, and attendance tracking.
  - Applied facial detection and recognition algorithms using OpenCV and integrated a backend database for attendance storage and management.

Patents and Publications

C=Conference, J=Journal, P=Patent, S=In Submission, T=Thesis

[C.1] **Abdul Sami**, et al. (2025). **Text-Conditioned Diffusion Model for High-Fidelity Korean Font Generation**. In *ICOIN 2025 – The 39th International Conference on Information Networking*. Jan 2025, Chiang Mai, Thailand.

[S.1] Kumar Avinash, Irfanullah Memon, **Abdul Sami**, et al. (2024).**Ckfont3: Component-Based Korean Font Generation Using Positional Aware Component Decomposition**. Manuscript submitted for publication in *Journal of Visual Communication and Image Representation*.

[S.2] **Abdul Sami**, et al. (2025). **Diffusion-Driven Multilingual Font Generation with Structural Precision and Iterative Refinement**. Manuscript preparation for submission to a journal in computer vision or deep generative modeling, 2025.

[T.1] **Abdul Sami**. **Disentangled Diffusion for Multilingual Character Generation**. Master's Thesis, Department of Computer Science, Soongsil University, South Korea, Aug 2025.

Skills

- **Programming Languages:** Python, Java, C++, JavaScript, LaTeX
- **Deep Learning Frameworks:** PyTorch, TensorFlow, HuggingFace, OpenCV, Scikit-learn, Weights & Biases
- **Generative Modeling:** Diffusion Models (DDPM, DDIM), GANs, VAEs, CLIP, UNet, ResNet, VGG
- **Computer Vision:** YOLOv8, Segmentation, Detection, Sobel Filtering, Feature Matching
- **Machine Learning Workflow:** Data preprocessing, loss design (perceptual, offset), evaluation (SSIM, LPIPS, FID)
- **Cloud & Deployment:** GCP (Vertex AI), Docker, Colab, Kaggle, Linux (Ubuntu, Server Security)
- **Mathematical & Statistical Tools:** NumPy, SciPy, Pandas, Matplotlib, SPSS
- **Research Competencies:** Academic writing (conference/journal papers), thesis development, LaTeX, model evaluation, reproducible experimentation, collaborative research, few-shot learning, structured generative modeling

Honors and Awards

- **Full Master's Scholarship** *Sep 2023*
  Soongsil University [Web]
  - Merit-based scholarship awarded for academic excellence and research potential in Computer Science.
  - Provided full tuition coverage and a monthly living stipend; recognized among top international graduate students.
- **Google Cloud Study Jam Completion/ Swag Award** *2025*
  Google Developers Korea [Web]
  - Completed all labs; awarded official swag for performance and engagement.
- **Undergraduate Merit Award** *2023*
  Mehran University of Engineering and Technology SZAB Campus [Web]
  - Graduated with distinction (GPA: 3.73/4.0), ranked among the top 5 students in the Software Engineering department.

Certifications

- **Introduction to Machine Learning**
- **The Elements of Data Science**
- **Cisco Certified Network Associate Training**
- **Cyber Security Essentials**
- **Robotic Process Automation**

Additional Information

Languages: English (Fluent), Urdu (Fluent), Sindhi (Native), Korean (Intermediate)
Interests: Human-Centered AI, Cultural Exchange, Language Learning, Traveling

References

1. **Prof. Jaeyoung Choi**
   Professor, Dept. of Computer Science
   Soongsil University, South Korea
   Email: choi@ssu.ac.kr
   Phone: +82-010-3311-0684
   Relationship: Lab Supervisor and Thesis Advisor

2. **Prof. Jongsun Choi**
   Associate Professor, Dept. of Computer Science
   Soongsil University, South Korea
   Email: jongsun.choi@ssu.ac.kr