ZEESHAN NADIR

zeeshan-nadir 765-418-1111 zee.nadir.1@gmail.com

PROFESSIONAL SUMMARY

Imaging scientist with 10+ years of experience in deep learning, generative models, and numerical optimization for real-time graphics and imaging systems. Proven track record of designing, training, and deploying neural models under strict latency and performance constraints, and shipping AI-driven features used by millions of users. Deep expertise in neural rendering–adjacent pipelines, image/video generation, and performance-critical PyTorch/C++ systems, with strong cross-functional collaboration across hardware, systems, and product team

EDUCATION

Ph.D. in Electrical and Computer Engineering Jan 2013 – Mar 2018
Purdue University, West Lafayette, IN
Research: Tomographic Reconstruction of Gas Flow Properties using Sparse Measurements
GPA: 4.00/4.00

M.S. in Electrical and Computer Engineering Aug 2011 – Dec 2013
Purdue University, West Lafayette, IN
GPA: 4.00/4.00

B.S. in Electrical Engineering June 2007 – June 2011
University of Engineering and Technology (UET), Lahore, Pakistan
Graduated Summa Cum Laude, GPA: 3.93/4.00

PROFESSIONAL EXPERIENCE

Senior Staff Engineer II Mar 2023 – Present
Samsung Research America, Plano, TX

- Co-authored **generative AI research** on **personalized content generation** and **physics-consistent video dynamics**, developing neural models that enforce temporal consistency and controllable behavior (arXiv; under review).
- Contributed to the design of **dynamics-aware generative models**, combining **deep learning with physical constraints** to improve realism, stability, and controllability in video generation.
- Led a team of 10+ engineers to **commercialize a 50MP multi-frame imaging pipeline**, shipped worldwide in Samsung Galaxy Z Fold 5, Galaxy S24, Z Fold/Flip 6.
- Pioneered a **patent-pending tonemapping system**, reducing runtime and memory footprint by **30%**, adopted for upcoming Galaxy S26 devices.
- Drove cross-functional execution across **QA, systems**, and **hardware** teams globally to de-risk timelines and accelerate delivery of production-grade imaging solutions.
- Currently leading **tonemapping R&D** to advance low-light and night photography, targeting 2026 flagship product rollout.

Senior Staff Engineer I Mar 2021 – Feb 2023
Samsung Research America, Plano, TX

- Led the development of the **flagship 50MP camera technology**, a central feature in the commercial success of the Galaxy S23 and Z Fold 4 smartphones
- Architected the system end-to-end and developed core algorithms, securing multiple patents for novel technical innovations.
- Led strategic, system-level planning and technical risk mitigation strategies, coordinating execution among global stakeholders and cross-functional teams to ensure unified project alignment.

Senior System Design Engineer May 2018 – Feb 2021
Samsung Research America, Plano, TX

- Pioneered a core AI image processing component integrated into every Samsung Galaxy flagship phone since the S10, reaching hundreds of millions of smartphones globally.

Graduate Research Aide May 2017 – Aug 2017
Argonne National Lab, Argonne, IL

- Developed real-time pedestrian detection and tracking algorithms and supervised undergraduate projects.

Application Support Engineer Intern May 2016 – Aug 2016
MathWorks, Inc., Natick, MA

- Developed **C++ code within the MATLAB Coder codebase** to automatically unroll for-loops during C/C++ code generation, improving performance of numerically intensive workloads (released in MATLAB R2017a)

AWARDS & HONORS

- Samsung Research America President's Award (2019, 2020)
- Samsung CTO Award (2019)
- Gold Medal — Top Graduate (B.S.)
- IEEE Journal Reviewer

SKILLS

- **Languages:** Expert Knowledge of C, C++, Python, MATLAB; Familiarity with Java
- **Libraries:** NumPy, SciPy, PyTorch, TensorFlow, OpenCV

PATENTS & PUBLICATIONS

- Author of multiple research papers & patents
- Check out Google Scholar for information on patents & publications .

REFERENCES

Available upon request.