**Sung Jin Kil**

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**Product Design Engineer – VR/AR/Audio**

**Professional Summary**

Highly technical and multi-disciplinary **Mechanical Engineer / New Product Program Manager** with 20+ years of experience in **UG NX and Siemens NX 3D modeling**, display hardware development, and advanced manufacturing solutions across VR/AR, mobile, consumer electronics, and optical display technologies.

* **2.7 years of Siemens NX 3D modeling experience (Jan 2023 – Aug 2025)** in AR/VR devices, smart wearables, and IoT product structures.
* Deep background in **UG NX (2002–2018)** for parametric modeling, tolerance stack-up, assembly design, and structural/thermal analysis.
* Expertise in new product introduction (NPI), design-for-manufacturing (DFM/DFA), and industrial automation.
* Proven record of delivering **Meta (Facebook) Ray-Ban smart glasses** and Smart Pole IoT VR projects, plus leading multiple **LCD → OLED → MicroLED** display technology transitions.

**Education**

**Bachelor of Engineering, Mechanical Engineering** – Korea University, Seoul (2000)

**Core Skills**

* **CAD Tools:** Siemens NX (3D Modeling: 2023.1–2025.8), UG NX, SolidWorks, ProE, Autodesk
* Opto-Mechanical & Product Design | Tooling/Fixtures | DFM/DFA
* Structural & Thermal Analysis: ANSYS, Abaqus, Hypermesh
* FEM Modeling | Linux OS | FreeMat
* New Product Development (HW/SW) | Manufacturing Automation
* Robot Systems & Control Integration | Optical Module Packaging

**Professional Experience**

**Facebook / Meta | Jan 2023 – Present**

**Product Design Engineer (Ray-Ban Smart Glasses Program)**

* Applied **Siemens NX 3D modeling (2023.1–2025.8)** for mechanical design of AR smart glasses, including housing, cable assemblies, and integration of sensors, PCBs, antennas, and batteries.
* Designed and improved NX-based cable test fixtures and plastic molds for next-gen wearable electronics.
* Used NX assemblies to validate manufacturability of new concepts (SN Gen2 model) and USB cable improvements.
* Led NX-based structural and tolerance simulations for **Smart Pole (IoT Smart City)** hardware.

**Key Accomplishments:**

* Delivered NX-driven mechanical structures for AR wearables and IoT poles.
* Optimized NX models for sheet metal forming and aluminum extrusion.

**Samsung Display/Electronics – Display R&D Centre | Jun 2009 – Dec 2022**

* Used **UG NX** extensively for LCD/OLED modules, encapsulation equipment, and interactive displays.
* Key NX projects:
  + LCD TV/IT modules – tolerance analysis, producibility support.
  + OLED encapsulation – NX-based structural/thermal simulations.
  + Interactive display monitors (65”, 75”) – DFM/DFA optimization in NX.

**Samsung Electronics – Global Manufacturing Technology Centre | Mar 2006 – May 2009**

* Designed molds/dies for washing machines, printers, and microwaves using **UG NX**.
* Improved producibility through NX simulation and Six Sigma/FMEA-based tooling.

**Samsung Electronics – Mechatronics Centre | May 2004 – Feb 2006 (Austin, TX)**

* Developed Mobile LCD Auto Optical Inspection system using **UG NX CAD modeling**.
* Simulated Fab stocker vibration and designed EFEM modules in NX.

**ILJIN Nanotech | Jan 2002 – Apr 2004 (Seoul, Korea)**

* Supported optical transceiver packaging process using **UG NX 3D CAD** for fixture/lens tray design.

**Highlighted UG NX / Siemens NX Project Portfolio**

* **2023–2025 (2.7 years):** Siemens NX 3D modeling for **Meta Ray-Ban Smart Glasses** & **Smart Pole IoT Systems**.
* **2016–2018:** NX for **Interactive Display Monitors (65”, 75”) – DFM/DFA optimization**.
* **2009–2015:** NX for **LCD TV & IT Modules (Tolerance Analysis, Producibility)** and **OLED Encapsulation (Thermal/Structural)**.
* **2006–2008:** NX for **Drum Washer, Air Conditioner, PDP TV, HDD, Laser Printer – Automation & Costing**.
* **2004–2005:** NX for **Mobile Auto Visual Inspection (LCD Panel)**.