

SANKALP GUPTA

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PROFESSIONAL PROFILE

Results-driven Power Electronics-Firmware Engineer with 5+ years of expertise in developing firmware for high-power generation products. Skilled in 8-bit AVR Microcontrollers, C2000 series MCU, and comprehensive testing. Seeking a challenging role to contribute skills to innovative organizations.

EXPERIENCE

The Vollrath Company, Sheboygan, WI, USA (June 2021 – Present) — Power Electronics-Firmware Engineer

- **Project Leadership:** Led the end-to-end development of a best-in-class induction product, managing a cross-functional team of 3, including a Hardware Engineer and a Testing Co-op.
- **Firmware Innovation:** Developed the complete firmware for SCR and IGBT-based high-power generation products, including a unique and patentable technique for pan detection in single-switch induction cooktops.
- **System Integration:** Orchestrated firmware projects from start to finish, seamlessly integrating temperature control and user feedback to enhance overall product performance.
- **MCU Programming:** Programmed 8-bit AVR Microcontrollers (Atmega16U4, AT Tiny806, ATmega1608) and TMS320FX 32-bit MCU using IAR and CCS respectively, tailoring them for induction and resistive elements projects.
- **Hardware Debugging:** Utilized JTAG and Atmel ICE for debugging, troubleshooting, and soldering hardware components, ensuring smooth firmware operation.
- **Quality Assurance:** Formulated and executed a comprehensive test plan for firmware testing, leveraging high-temperature probes and a data logger for meticulous data validation and analysis.

Stonecutter Recording Studio, Chicago, IL, USA (May 2020 – August 2020) — Audio/Electrical Engineering Intern

- Collaborated with studio owner to optimize the placement of electrical and musical equipment, elevating live recording sound quality.
- Conducted comprehensive checks and troubleshooting of electrical equipment, including microphones, cables, connectors, and live music systems.
- Demonstrated a commitment to professional ethics and teamwork.

EDUCATION

- **University of Illinois at Chicago:** Masters of Science: Electrical and Computer Engineering (May 2021).
- **Pune Institute of Computer Technology:** Bachelor of Engineering: Electronics and TeleComm Engineering (May 2018).

PROFESSIONAL SKILLS

- **Electrical Equipment:** Spectrum analyzers, Isolation transformer, Oscilloscopes, Signal Generators, Multimeters, Variacs, Logic analyzers.
- **Languages:** C, C++, Python.
- **Software:** IAR Studio, CCS, Microchip Studio, IDLE, Altium designer, MPLAB.

COMMUNITY INVOLVEMENT

AVRFreaks Forum and E2E Forums Member

- Actively participate in AVRFreaks and E2E forums, contributing to discussions and assisting fellow community members.
- Earned over 250 points on both forums for valuable contributions in firmware development discussions.