

AilumiQ Job Description: JD0005 Electrical & Software Engineer

About AilumiQ:

AilumiQ is an innovative deep-tech startup dedicated to revolutionizing the production of advanced materials, such as next-generation quantum dots. We've developed an automated platform powered by AI to achieve exceptional precision, efficiency, and scalability in material synthesis. Our mission is to overcome the limitations of traditional manufacturing methods and unlock the full potential of quantum dot technology.

Job Summary:

We are seeking a talented and motivated Electrical & Software Engineer to join our dynamic team in Taipei, Taiwan. In this role, you will be responsible for the design, development, and deployment of automated systems, integrating electrical components and writing firmware and software for hardware control. This full-time position offers a unique opportunity to work at the forefront of advanced material manufacturing, combining electrical engineering, software development, and automation.

Responsibilities:

- Design, develop, and deploy automated systems for material synthesis, characterization, and handling.
- Integrate and control various electrical and optical components, including light sources, cameras, and lasers, within the automated platform.
- Develop and implement software for data acquisition and analysis from sensors.
- Write, test, and debug firmware for embedded systems and control hardware.
- Create clear and comprehensive technical documentation for developed systems, processes, and hardware setups.
- Collaborate with material scientists and other engineers to understand process requirements and implement integrated solutions.
- Troubleshoot and debug automation systems, embedded components, and hardware to ensure optimal performance and reliability.
- Stay up-to-date with the latest advancements in automation technologies, embedded systems, and electrical engineering.
- Contribute to the research, evaluation, and integration of new automation tools and methodologies.

Required Skills and Experience:

- Proven experience in designing, developing, and deploying automation systems.
- Strong proficiency in Python and C++ programming, with experience in automation scripting, data analysis, and interfacing with scientific instruments.

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- Experience in integrating and controlling electrical and optical instruments and sensors.
- Experience in PCB design, including schematic capture, layout design, and testing using tools such as EasyEDA, Altium Designer, KiCad, or Eagle.
- Experience in writing, testing, and debugging firmware for microcontrollers or similar embedded platforms, particularly for PCB-based systems.
- Experience in writing, testing, and debugging firmware for microcontrollers or similar embedded platforms.
- Experience in writing clear and concise technical documentation, including system architecture and firmware specifications.
- Excellent problem-solving and analytical skills.
- Ability to work effectively both independently and collaboratively within a multidisciplinary team.
- Bachelor's or Master's degree in Electrical Engineering, Computer Engineering, or a related field.

Preferred Skills and Experience:

- Hands-on experience with specific electrical or optical instruments (e.g., spectrometers, cameras, lasers).
- Experience with communication protocols for embedded systems and instruments (e.g., SPI, I2C, UART, Ethernet).
- Familiarity with automation tools or frameworks such as LabVIEW, MATLAB, or PLC programming.
- Experience with cloud platforms (e.g., AWS, Azure, GCP) for data logging and remote monitoring.
- Familiarity with PCB manufacturing processes and assembly techniques.
- Knowledge of AI-assisted learning is a plus.

Benefits:

AilumiQ offers a comprehensive benefits package, including statutory benefits and other perks.

- **Statutory Benefits:** Labor insurance, health insurance, and labor pension fund contributions. We also offer various types of leave, such as maternity, paternity, family care, and annual leave.
- **Other Benefits:** Employee stock options, a performance-based bonus, and an open office environment. We also offer flexible remote work options, paid sick leave, and employee training subsidies.
- **Enhanced Benefits for Full-Time Employees:** This includes guaranteed annual leave of 14 days, flexible working hours, and an annual external training budget. Full-time employees also receive a monthly welfare allowance and subsidies for laptops and health check-ups.

To Apply:

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Please submit your resume and cover letter detailing your relevant experience and your interest in joining AilumiQ to hire@ailumiq.com. We look forward to hearing from you.