


# Aswin Kumar

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 Chennai

## Automation Software – R&D Engineer

### SUMMARY

I am an experienced Automation and Software Engineer with over 3 years of experience in core automation, industrial protocols, data analysis, robotics, and AI. I am proficient in DevOps and Agile methodology and have a proven history of delivering high-quality results in fast-paced environments. My expertise in automation and software engineering, coupled with my passion for innovation, makes me an asset to any organization seeking to leverage technology for business success.

### EDUCATION

B.E. in Mechatronics Engineering

May '17 - Mar '21

Agni college of Technology – Anna University

Secured - 80.3%

### KEY DEVELOPMENT PROJECTS

#### Plugin Development

Tech Stack: Karel, PowerShell, TypeScript, Vue, RoboGuide | Mar 2023 | Chennai, IN

- Developed a Cobot plugin that facilitates communication between welding power sources and Cobot, while also offering improved UI and support for welding parameters.
- Incorporated reinforcement learning to enhance the plugin's results.

#### Python-Based Benchmarking Tools

Tech Stack: Python, HTML, Flask, TensorFlow, OpenCV, NumPy, Pandas, Matplotlib | Jun 2020

- Created comprehensive benchmarking tools for welding tasks utilizing state-of-the-art machine learning techniques such as CNN and UNET++.
- Optimized performance by implementing GPU clusters and multiprocessing.
- Developed HTML, CSS, and JavaScript through the Flask framework for user interaction.

### PROFESSIONAL EXPERIENCE

Automation Software - R&D Engineer

Sep '21 - Present

Lincoln Electric

Chennai, IN

- Drove Cobot plugin software development efforts and commissioned industrial robots including ABB GoFa and Fanuc CRX.
- Designed and developed Python-based benchmarking tools utilizing advanced machine learning methodologies such as TensorFlow and OpenCV, optimized with threading, multiprocessing, and GPU acceleration.
- Utilized Azure ML platform for cloud computing and coordinated with DevOps teams for efficient monitoring and deployment, creating fully automated result generation and data storage systems for Industry 4.0.
- Developed Selenium-based RPA solutions to automate web-based tasks, improving efficiency and accuracy in repetitive processes.

Automation & Control Engineer

Aug '20 - Sep '21

Qtek Mechatronics

Chennai, IN

- Designed and programmed an Automated Guided Vehicle and Multi-Axis Robot for 3D printing, ensuring location precision with Decawave technology.
- Implemented a Pick-To-Light System using I2C, RS232, Profinet, and TCP/IP communication protocols for accurate component picking, enabling efficient tracking and analysis through data logging and report generation.
- Programmed an Auto-Weighing Machine using Siemens S7-1200 PLC and created the front-end in JavaScript with Node-RED for a user-friendly interface, ensuring efficient and precise weighing.

### KEY SKILLS

• Software Development • Interface Designing • Data Analytics • Selenium-based RPA Development • Cloud Computing • DevOps.  
• PLC & HMI Programming • Industrial Protocols • Robotics • Data Organization & Management • Coding & Troubleshooting

### TECHNICAL SKILLS

**Programming Languages:** Visual Basic, Python, Node.js, Node red

**Web Design:** HTML5, CSS, JavaScript, JSP,

**Servlets/Server Tools:** Azure ML, Azure DevOps & pipelines

**Database:** My SQL, MongoDB

**Web/Application Servers:** Flask, Google extensions

**Industrial Robots:** Fanuc - R30id & CRX, ABB - Irc5 & GoFa

**Embedded Hardware programming:** S7-1200 TIA Portal, Delta HMI, Raspberry PI, Arduino

**Industrial Protocols:** RS232, RS485, TCP/IP, Ethernet/IP, Profinet, MQTT, FTP

### CERTIFICATIONS

- ♦ Programming in C | NPTEL
- ♦ Arc Tool Handling | Fanuc
- ♦ Karel | Fanuc
- ♦ MongoDB | Udemy
- ♦ Internet of Things: How did we get here? | "University of California San Diego" offered through Coursera.
- ♦ AI For Everyone | deeplearning.ai
- ♦ Deep Learning | National Research University Higher School of Economics Coursera

### ADDITIONAL INFORMATION

- Languages: Tamil (Native), English (Professional), Malayalam (Medium)
- Interests: Robotics, Space systems, Nano-bots, Music