Infineon Technologies Dresden GmbH & Co. KG

www.infineon.com/dresden
www.infineon.com/careers

Infineon hat rund 58.600 Mitarbeiterinnen und Mitarbeiter aus über 100 Ländern und gehört zu den weltweit führenden Unternehmen der Halbleiterbranche. Der Fertigungsstandort Infineon Dresden wurde 1994 gegründet – damals noch als Teil von Siemens. Heute ist Dresden einer der modernsten und größten Standorte für Fertigung, Technologie- und Produktentwicklung – und beschäftigt inzwischen ca. 3.700 Mitarbeiter*innen. Damit ist Infineon Dresden einer der wichtigsten industriellen Arbeitgeber der Region.

We are looking for a working student/ intern at our site in Dresden

Working Student/ Internship: AI and Integer Linear Programming (ILP) for Processor Design (f/m/div)

- Praktikum, Kennziffer HRC1005900
- Einsatzort: Sachsen, Dresden

- Berufsfeld: Elektronik, Elektrotechnik
- Befristetes Arbeitsverhältnis, Vollzeit
- Einstiegstermin: ab 01.12.2024
- Bewerbungsfrist: 07.02.2025

Ihr Aufgabengebiet

- See the complete job application here**.**

  Job description:

  Develop AI Algorithms to identify Custom Instructions (CIs):

  - **Innovate in ASIP Design**: You will work with AI specialists to develop reinforcement learning (RL) algorithms for enhancing process or computational efficiency by creating application-specific custom instructions, with an emphasis on the RISC-V architecture
  - **Scalability and Efficiency**: You will enhance such AI Models to handle varying code size, reducing overfitting and increasing scalability
  - **Comprehensive Documentation**: You document processes and contribute to research papers, showcasing innovations in ASIP design

  Benchmarking Against Traditional ILP Methods:

  - **Construct ILP Models**: You develop traditional ILP optimization models to benchmark against AI-based approaches
  - **Performance Assessment**: You evaluate the models in terms of runtime, accuracy and scalability to determine their effectiveness in extending the base ISA
  - **Impactful Evaluation**: You will assess the impact of these models on the development cycle and efficiency of ASIP design in a rapidly evolving technological landscape

  #WeAreIn for driving decarbonization and digitalization.
  As a global leader in semiconductor solutions in power systems and IoT, Infineon enables game-changing solutions for green and efficient energy, clean and safe mobility, as well as smart and secure IoT. Together, we drive innovation and customer success, while caring for our people and empowering them to reach ambitious goals. Be a part of making life easier, safer and greener.
  Are you in?

  The **Development Center Dresden** was launched in 2019 and is growing successfully. Today, more than **120** top-class experts and young talents from **23** nations are working on research and development of new products and solutions for automotive and power electronics, software, chip design and verification, characterization of complex systems as well as development of products and solutions with artificial intelligence. In the long term, the Development Centre will employ around 250 people. State-of-the-art research and characterization labs facilitate R&D activities for automotive applications, electromobility and AI chips of the next but one generation. The Development Center covers the complete development value chain from product and system definition to qualification.
  This is the right place for you, if you want to work in a high-tech environment, master challenges of advanced product development, be part of a multicultural team with great spirit and experience a startup-like culture.

Ihr Profil

- Abitur/ Fachabitur

- Oder gleichwertig qualifiziert.

Qualifikationen:

Your Profile

- **Study field**: You are currently studying in a STEM program, ideally Computer Science or Electrical Engineering
- **Skills**:
  - Required: You have basic knowledge of ILP models and/or RL and deep learning
  - Preferred: You possess proficiency in Python and familiarity with RISC-V architecture
  - Plus: You are experienced with RL libraries (e.g. RLLib) and GNN libraries (e.g. DGL)
- **Experience**: You have prior hands-on experience with ILP optimization tools (like Gurobi or CPLEX) and/or RL environments and model training is advantageous
- **Way of working**: You have a methodical, structured and proactive working style
- **Language skills**: You have fluent English skills, German is a plus

Please attach the following documents to your application:

- CV in English
- Certificate of enrollment at university
- Latest grades transcript (not older than 6 months)
- High school report

Important information:

- **Working part-time**: The focus is on studies. Therefore, working student is possible during the lecture period with a maximum of 20 hours per week.
- **Proper students (according to the German law) are welcome**: You must be enrolled, and the examination results or modules of your studies must not have been completed yet, so that you can still work in our team for at least 6 months. You must also not be in a semester of leave.
- **You should live close to the site**: It is important for us to work with you on site and to integrate you into the team. You should therefore be able to come to the site regularly.

We are looking forward to your **online application**.

Kontakt

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- Bewerbungen bitte an: https://jobs.infineon.com/careers/job/563808956324397

Anschrift

Infineon Technologies AG
Rahel Tews
Stichwort: WIKWAY-Anzeige HRC1005900
Königsbrücker Str. 180
01099 Dresden
Deutschland