

# Controls Systems Engineer, Machine Learning, Cloud

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## Qualifications

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Minimum qualifications:

- MS degree in Engineering, Science or related field, or equivalent practical experience.
- 5 years of experience in designing and implementing controls systems and dynamic modeling.
- 5 years of experience with Machine Learning and construction of algorithms and programming background (C, Python, MATLAB or Shell).
- Experience with Machine Learning.

Preferred qualifications:

- PhD in Engineering, Science or related field, or equivalent practical experience.
- Familiarity with digital signal processing and time-series analysis.
- Experience with dynamic system analysis, feedback control systems (PID Control) and optical control.
- Experience with optimization: Linear Programming and Convex Optimization.
- Experience with modeling/statistical software such as TensorFlow, Simulink, R, or Matlab Machine Learning Toolbox.

## About the job

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Our thirst for technology is a part of everything we do. The Data Center Engineering team takes the physical design of our data centers into the future. Our lab mirrors a research and development department -- cutting-edge strategies are born, tested and tested again. Along with a team of great minds, you tackle complex topics like how we use power or how to run state-of-the-art, environmentally-friendly facilities. You're a visionary who optimizes for efficiencies and never stops seeking improvements -- even small changes that can make a huge impact. You generate ideas, communicate recommendations to senior-level executives and drive implementation alongside facilities technicians.

With your technical expertise, you ensure compliance with codes and standards, develop infrastructure improvements and serve as an expert in your specialty (e.g., cooling, electrical).

Behind everything our users see online is the architecture built by the Technical Infrastructure team to keep it running. From developing and maintaining our data

centers to building the next generation of Google platforms, we make Google's product portfolio possible. We're proud to be our engineers' engineers and love voiding warranties by taking things apart so we can rebuild them. We're always on call to keep our networks up and running, ensuring our users have the best and fastest experience possible.

## Responsibilities

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- Research and develop new algorithms and methods for optimizing data center efficiency, performance.
- Design, validate and implement controls algorithms to handle electrical and mechanical stability.
- Analyze and recommend approaches to handling dynamics of the electromechanical systems and their interactions within a data center.
- Conduct empirical statistical analysis/modeling on relevant data for use in data center controls.
- Collaborate with the Engineering team to implement proposed strategies and algorithms in our technology system; develop large scale Machine Learning algorithms for pattern recognition and Bayesian and non-linear systems.