**Introduction**

- Existing software for automatic code execution & judging is not ideal
- Such systems are often reinvented each time they are needed
- Developers of these systems need an easy way to execute arbitrary code
- Strong need for a “submission-as-a-service” platform

**Overview of BRUCE**

- BRUCE is a distributed system which presents an API for executing code that abstracts away and solves common challenges such as:
  - Security
  - Scalability
  - Language Breadth
  - Server Management
- Lets developers focus on specific frontend use cases instead of building a large, distributed backend system
- Includes support for a variety of languages and can compare output to automatically judge correctness of submissions
- Currently used in CIS 197 (JavaScript) and the PClassic High School Programming contest
  - Has processed over 2000 submissions for 550 PClassic participants
  - Has processed nearly 3000 homework submissions for CIS 197 students

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**Note:** Requests were submitted on a BRUCE backend with 4 CPU cores and each submission ran for 200ms