2021 ASME-CIE HACKATHON KICK-OFF
Exploring the Power of Data and Cybersecurity for Mechanical Engineering

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Quick Summary

- Three hackathon problems: 1) Digital Manufacturing – Obfuscating the design with security features. 2) Automated Testing in Production Planning in Test based Engineering. 3) Melt Pool Monitoring Data Registration for Powder Bed Fusion Additive Manufacturing.
- Award: $7,500 in total. 1st place: $1,300, 2nd place: $800, and 3rd place: $400
- **36** participants; **20** different institutions; **5** different countries.

- **One team can work on multiple problems**
- **One person can only join in one team**

Agenda – Day 1

SEIKM Technical Committee: idetccie.seikm@gmail.com
Join our Slack Channel

Date and Time (ET)		Agenda	Action	Virtual platform
DAY 1, Aug. 14	2:00 – 3:15 pm	Hackathon kick-off and introduction of topic areas	• Hackathon kick off and introduction • Datasets will be downloadable on GitHub.	Zoom
	3:15 – 4:15 pm	**Team formation**	• Team formation and team name/# assignment. • Team leaders will submit team information to the Google form, and a team number will be assigned to you. Submit team info **by 4:15 pm**. • Early submission of your team information makes your presentation later. • A GitHub repository will be created for every team for co-working.	Zoom, Slack, GitHub
	4:15 – 6:30 pm	Hackathon starts and problem formulation (Q&A and tutorial session will be available)	• Every team can create a private channel in the Slack or use our own way of communication. • Zoom will be available to provide assistance on problem formulation. • Tutorial session will be offered from 5:30 to 6:30. • More details about the problems and GitHub will be provided. • Finalize your problem selection **by 6:30 pm**.	Slack, Zoom
	6:30 – 8:30 pm	Hackathon continues; pitching ideas and teamwork	• Q&A will be available through Slack. Mentors will be available to answer questions in Slack. • Frequently asked questions will be collected and posted on GitHub later. • Most questions will be addressed before 8:30 pm.	Slack

- **The number of teams for each problem will be announced after your first-time selection.**
- **You can switch to another problem or select both problems**

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Agenda – Day 2

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Date and Time (ET)		Agenda	Action	Virtual platform
DAY 2, Nov. 15	10:00 – 10:15 am	Day 2 kick-off	• Day 2 overview; download the presentation template from GitHub • Q&A will be offered by topic area mentors. Judging criteria recap.	Zoom
	10:15 –1:00 pm	Hackathon continues; One Zoom Q&A session will be available from **11:30 to 12:30 am**	• Additional Zoom meetings can be arranged upon request. • Q&A in Slack and Gather virtual space are always available.	Zoom, Slack, GitHub
	1:30 – 4:30 pm	Hackathon continues; One Zoom Q&A session will be available from **2:30 to 3:30 pm**	• Additional Zoom meetings can be arranged upon request. • Q&A in Slack and Gather virtual space are always available. • Teams will be reminded to prepare for the submission.	Zoom, Slack, GitHub
	4:30 – 5:00 pm	**Project submission**	• Upload the final submission to your own GitHub repositories (highly recommended) • Send the submission as a zip file to: idetccie.seikm@gmail.com • Deliverables: **a) presentation slides** and **b) test files** are mandatory, whereas c) the codes and d) pre-trained models are optional.	Gmail
	5:15 – 7:15 pm	Project presentations	• Each team will present in sequence. • Three sessions will be held in parallel.	Zoom, Slack
	7:15 – 7:45 pm	Judge discussion	• Participants will take a rest	Zoom
	8:00 - 8:30 pm	Awards and closing ceremony	• Announcement of winners and hackathon wrap-up. • Q&A for any remaining concerns and/or questions.	Zoom

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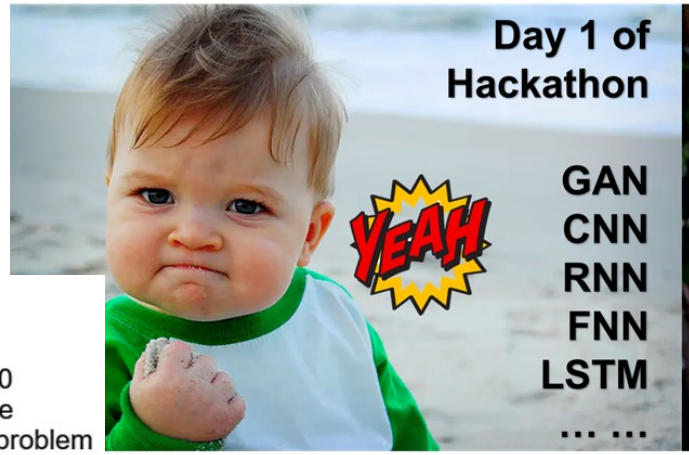
An idea, behavior, or style that spreads by means of imitation from person to person within a culture and often carries symbolic meaning representing a particular phenomenon or theme. -Wiki

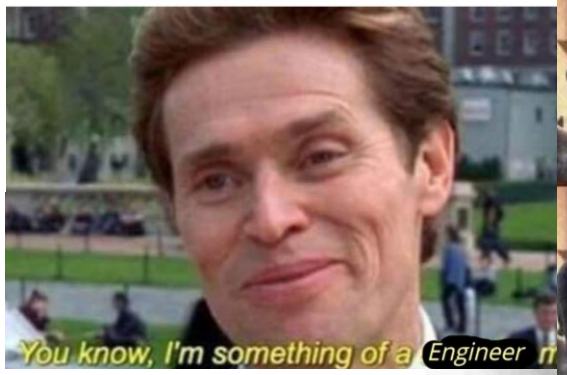
2021 IDETC MEME Challenge

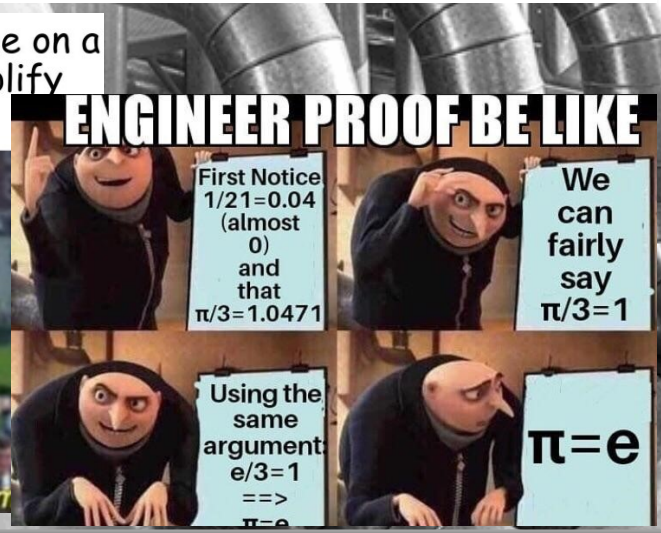
$2000 for the Hackathon problem



$50 Amazon gift card for meme

When you're running out of time on a test and use π = e = 3 to simplify calculations





Acknowledgement

- **ASME-CIE Hackathon Committee**: Zhenghui Sha, Yan Lu, Chris McComb, Zhuo Yang, Dehao Liu, Anh Tran, Binyang Song, and Laxmi Poudel.
- **ASME Staff Support**: Barbara Zlatnik and Andrew Koleba
- **CIE Division Executive Committee Representatives**: Paul Witherell, Mahesh Mani, and Jitesh Panchal
- **Hackathon Problem Contributors and Judges**:
  - Prof. Nikil Gupta: New York University
  - Mr. Gary Mac: New York University
  - Dr. Hammond Pearce: New York University
  - Ramesh Karri: New York University
  - Prof. Mark Yampolskiy: Auburn University
  - Prof. Satish Bukkapatnam: Texas A&M University
  - Prof. Chris McComb: Pennsylvania State University
  - Ms. Mayuri Deshpande: Siemens
  - Mr. Anant Mishra: Siemens
  - Vincenzo Ferrero: National Institute of Standards and Technology
  - Dr. Yan Lu: National Institute of Standards and Technology
  - Dr. Brandon Lane: National Institute of Standards and Technology
  - Prof. Hui Yang: Pennsylvania State University
  - Dr. Ho Yeung: National Institute of Standards and Technology
  - Hyunwoong Ko: Arizona State University