AI in RSE Training

Incorporating AI Topics in INTERSECT

https://intersect-training.org

Ian A. Cosden

Sr. Director, Research Software Engineering

Princeton University

Jeffrey C. Carver

James R. Cudworth Professor of Computer Science

University of Alabama





Supported by NSF Awards: 2017424, 2017259, 2519563 & 2519564

THE UNIVERSITY OF ALABAMA®

INTERSECT: RSE-Led Bootcamp Training

4
bootcamps since 2023

142
participants

50+
institutions

3x
more applicants than seats

- NSF-funded CyberTraining project
- A week of hands-on software engineering for researchers who write code: design, collaborative Git, issue tracking, PRs, code review, packaging, testing, CI/CD
- Taught by volunteer RSEs, with open, modular lessons anyone can reuse



2026 INTERSECT Cohort

https://intersect-training.org

The Bootcamp Week

Monday	Tuesday	Wednesday	Thursday	Friday
Project management	Collaborative Git	Code review	Packaging	CI/CD
Design	Issue tracking		Testing	
Licensing	Making good PRs	Afternoon off		Half day
	Documentation			
Evening: welcome reception and dinner	Evening: reception dinner			

Target Audience: researchers who write code but aren't computer scientists.

Past Attendees: Grad students, postdocs, research scientists, faculty, RSEs, undergrads.

https://intersect-training.org

2026: Piloting an AI Session

WHY Participants and instructors kept asking for it, including in the 2025 bootcamp surveys

WHAT An optional session on Wednesday, the bootcamp's one free afternoon

HOW Live, interactive vibe coding with Claude Code. We built a new app from participants' ideas

~75%

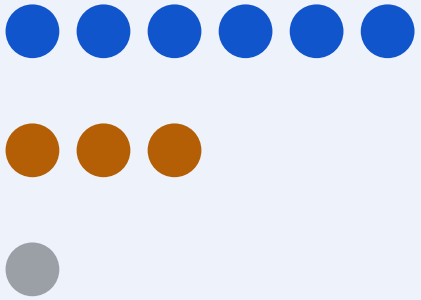
of participants gave up their afternoon off to join

https://intersect-training.org

What Participants Told Us

10 of 31

suggestions for improving the bootcamp were about AI, more than any other topic



6 Make it core

3 More nuance, less demo

1 Keep it optional

MAKE IT CORE

“I would make the AI talk [a part] of the full curriculum! I found it to be one of the most useful!”

MAKE IT BETTER

“The AI tools portion felt most like a demo / sales pitch. [...] I would appreciate a more nuanced discussion.”

Source: 2026 post-bootcamp survey, 34 respondents

2027: From Pilot to Curriculum

1. **A real module, not an add-on**

   GenAI and agentic software development tools and techniques, built into the week

2. **Hands-on and RSE-specific**

   Less demo, more practice, and a frank look at where these tools help research software

3. **The hard part: what comes out?**

   The week is full, and participants also want more time on testing and CI/CD

The week is already full

- Project management
- Design
- Licensing
- Collaborative Git
- Issue tracking
- Making good PRs
- Documentation
- Code review
- Packaging
- Testing
- CI/CD
- **+ GenAI and agentic development**

https://intersect-training.org/participate

https://intersect-training.org