Preface

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The Generative Code Intelligence (GeCoIn 2025) workshop offered a shared venue for researchers and practitioners involved in the design, development, and application of generative AI technologies, such as Large Language Models (LLMs), to engage with experts in software engineering, security and verification. Reasons behind the idea of this workshop arise from the widespread adoption of those cutting-edge AI technologies in the creation of code, which is prevalent in both academic research and industrial settings. As the utilization of these powerful tools continues to grow, there is an increasing necessity to ensure that the code they generate is secure and safe, ideally free from vulnerabilities. However, controlling AI code generation is challenging because modern, often commercially-used, models operate as black boxes and frequently lack awareness of their own inaccuracies. As a consequence, AI generated code could introduce serious weaknesses in a source code corpus, which could become potentially difficult to identify when the AI tools are used massively. There are many possible approaches to address this issue, each raising open research questions across diverse fields such as static analysis, security, benchmarking, fine-tuning or custom training of AI models, software engineering, explainable AI, and so on. By bringing together experts from these communities, the workshop fostered interdisciplinary collaboration and facilitate the sharing of knowledge, providing a common ground of discussion about possible solutions to this challenge.

The workshop proceedings feature seven peer-reviewed papers, out of ten submissions. The topics span automatic generation of code, tests, and documentation, with particular emphasis on similarity detection, vulnerability analysis in both generated and manually written code, and broader cybersecurity concerns. The studies explore technologies that generate code in general-purpose and domain-specific programming languages, including those used in autonomous vehicles, Ethereum blockchain applications, educational tools, and legal document processing. Methodologies range from multi-agent systems to formal verification, offering a diverse perspective on the security and safety of generated code.

We extend our sincere thanks to all the authors who submitted papers, our keynote speaker Lucas C. Cordeiro, and the members of the program committee for their contributions in making this edition of the workshop a success.

Workshop website: https://gecoin-workshop.github.io/

Program Committee

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Declaration on Generative AI

The authors have not employed any Generative AI tools.