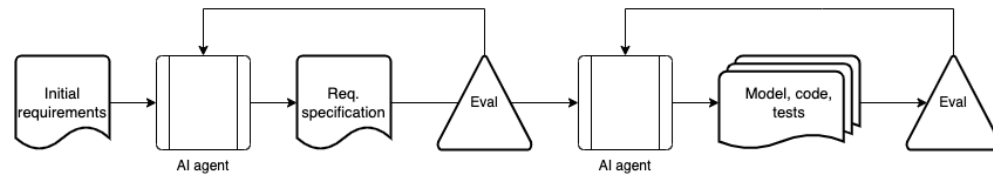**Aspiring PI Info:**
- *Konstantin LÄUFER* (he/él/er/lui)
- Professor of Computer Science
- Loyola University Chicago

Research interests:

- Prog. languages and methodology
  - Higher-order typed PLs in SE
- Formal methods in SE
  - Testing, Model checking, TLA+
- Software architecture and NFRs
- CS/SE education

Current Project(s)

- Co-PI on EAGER: CET: Exploring […] Large Language Models in Enabling Energy-Efficient Data Center Software Infrastructure
- Engaging course materials for undergrad formal methods course
- Co-PIs for FMitF: Mohammed Abuhamad (AI + Security), George K. Thiruvathukal (AI + SE + Systems)

Project Idea(s)…

- GOAL: Next-gen AI-enabled agile software development process + tools to replace legacy round-trip CASE tools to keep artifacts in sync
  - Refining initial requirements
  - Mapping requirements spec. to formal models, implementations, and tests
  - Checkpointing via version control
- Potential impact
  - Better software via advanced tools
  - New benchmarks for generation of unit tests and formal models
  - New AI agents as part of the tools
- Develop related edu materials, workshops
- Evaluate correctness/completeness of generated artifacts relative to initial requirements

… and possible collaborators sought

- FM: addl. techniques beyond model checking
- Parallel interests: other target languages?