Aspiring PI Info:
- Anduo Wang
- Associate professor
- Temple University

Research interests:

- success of formal methods in **clean-slate** networks
- new challenges in the **mundane** wild: continuous-operating, ever-evolving, multiple potentially conflicting stake-holders, partial visibility
- similar problems addressed by ***data(knowledge) base*** since its birth, and the neighboring disciplines — ***logic programming*** (***LP***), *inductive LP* (***ILP***), answer set programming (***ASP***), ***expert system*** …
- match, revive, innovate

Current Project(s)

- network management & diagnosis through logic programming
  - **Prolog**: balance procedural complexity of networking and declarative simplicity
  - **meta-programming**: understand the **what** (network state), as well as the **why** and **how**
  - **program transformation/query rewrite**: reflective network diagnosis by navigating the program space (e.g., control software, tests) w.r.t a context (semantic constraints, related test results)
- first-principle support for quantitative &non-monotonic reasoning

Project Idea(s)…

- **higher-order network diagnosis: a logic programming approach**
- impact: advance network management + study fundamental trade-off in formal methods
- transition to practice: rigorous network diagnosis by users with less expertise, expert system
- education: survey, development of expert system for network management
- quantify impacts: killer apps, case studies, diagnosis repository

… and possible collaborators sought

- Formal Methods: deductive reasoning
- field: diagnosing & managing networked systems
- parallel: program verification, program transformation, fault localization
- complementary: machine learning (inductive LP)