Guruprerana Shabadi

PhD Student in Computer Science
University of Pennsylvania

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Education

- **University of Pennsylvania** Philadelphia, US
  PhD, Computer Science *Aug. 2024 —*

- **École Polytechnique and Université de Paris Cité** Paris, France
  M.S., Computer Science (MPRI) *Sep. 2022 - Aug. 2024*

- **École Polytechnique** Palaiseau, France
  B.S., Mathematics and Computer Science, Summa cum laude *Sep. 2019 - Jun. 2022*

Research experience

- **IMDEA Software Institute** Madrid, Spain
  Research Intern *Apr. 2024 - Aug. 2024*
  - Advisor: Alessio Mansutti
  - Topic: Integer linear-exponential programming

- **Institute of Informatics, University of Warsaw** Warsaw, Poland
  Research Intern *Apr. 2023 - Aug. 2023*
  - Advisor: Nathanaël Fijalkow (Automata Theory Group)
  - Topic: Programmatic reinforcement learning

- **INRIA** Paris, France
  Research Intern *Jan. 2022 - Mar. 2022*
  - Advisor: Caterina Urban (ANTIQUE Team)
  - Topic: Static analysis of data science notebooks using abstract interpretation

- **Department of Computer Science, École Polytechnique (LIX)** Palaiseau, France
  Research Intern *Jun. 2021 - Dec. 2021*
  - Advisor: Sergio Mover (Cosynus Team)
  - Topic: Accounting for communication delays arising in cyber-physical systems

Publications

- S Hitarth, Alessio Mansutti, **Guruprerana Shabadi**. Optimization Modulo Integer Linear-Exponential Programs. *SODA 2026.*

- **Guruprerana Shabadi**, Nathanaël Fijalkow, Théo Matricon. Programmatic Reinforcement Learning: Navigating Gridworlds. *Generalization in Planning Workshop, AAAI 2025.*

- Luca Negrini, **Guruprerana Shabadi**, Caterina Urban. Static Analysis of Data Transformations in Jupyter Notebooks. *SOAP, PLDI 2023.*

Awards

Global Undergraduate Awards - Global Winner in Computer Science (recognized for work on *Static Analysis of Data Science Notebooks*)	Sep. 2022
Labex DigiCosme Scholarship	2022-2023
Excellence Scholarship from the École Polytechnique Foundation	2019-2022
DGA Scholarship from the French Directorate General of Armaments	2021-2022

Projects

- **Anemone**   Paris, France
  Entrepreneurial Project   *Oct. 2020 - Jul. 2024*
  - As the CTO, I lead the application development team at Anemone
  - We are a team of 4 student entrepreneurs building a socio-professional networking platform tailor-made to the needs of the artistic industry

Skills

Languages: C/C++, Python, Coq, Haskell, OCaml, JavaScript, Java, HTML-CSS, x86 Assembly

Frameworks: Django, Vue.js, Android, React, React Native, Pandas, Scikit-learn, Tensorflow, Qt

Spoken languages: English (native), French (advanced working proficiency), Kannada, Hindi

Volunteer Experience

- **Developer Student Club of École Polytechnique**
  Developer Student Club Lead   *Sep. 2020 - Jun. 2021*
  - As a part of the Google DSC Program, led a team in organizing educational events, workshops, and competitions about various platforms and technologies, including cloud and AI.

- **Student Body of École Polytechnique**
  Chief Financial Officer   *Jun. 2020 - Jun. 2021*
  - I was incharge of accounting, and gathering of sponsorships and funds, in addition to organizing the social and cultural life on campus.

- **Mental health committee at École Polytechnique**
  President   *Jun. 2020 - Jun. 2021*
  - Spreading awareness of mental health issues and providing resources to seek help.