

Artificial Intelligence Methods for Social Good

Lecture I: Introduction

17-537 (9-unit) and 17-737 (12-unit)

Fei Fang

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Today

- ▶ Part I
 - ▶ Course Logistics
 - ▶ Overview of AI for Social Good

- ▶ Part II
 - ▶ Basics of Optimization

Course Staff

Instructor



Name

Dr. Fei Fang

Contact Info

Email: feifang@cmu.edu (private Piazza messages are preferred)

Office location

Zoom or in-person (TCS 321)

Office hours

Tue/Thu 11:00am-12:00pm (calendly)

Teaching Assistant



Name

Zhicheng Zhang

Contact Info

Email: zczhang@cmu.edu

Office location

Zoom or in-person (TCS 463)

Office hours

TBD

Course Information

- ▶ Canvas: <https://canvas.cmu.edu/courses/38345>
 - ▶ Syllabus, Assignments, Announcements
 - ▶ Lecture slides and recordings (linked to Panopto)
 - ▶ Lectures are zoomed or recorded only upon special request
- ▶ Piazza: <https://piazza.com/cmu/spring2024/I7737/home>
 - ▶ Q&A
- ▶ Course Website: <https://aiandsocialgoodlab.github.io/I7737s24/>
 - ▶ Public-facing information
- ▶ Prerequisites: linear algebra, calculus, probability
 - ▶ Additional for 12-unit: programming, basic knowledge on AI

Course Scope

- ▶ **AI methods covered:**
 - ▶ Search and optimization
 - ▶ Machine learning
 - ▶ Computer vision
 - ▶ Natural language processing (including LLMs)
 - ▶ Game theory and economic paradigms
 - ▶ Humans and AI
- ▶ **Societal challenges discussed:**
 - ▶ Public and mental health
 - ▶ Food and agriculture
 - ▶ Security
 - ▶ Environmental sustainability

Connection to Other AI Courses

- ▶ Has some overlap with other AI courses
 - ▶ 15-281:AI; 15-780: Graduate AI
 - ▶ 10-701/15-781: Machine Learning; 10-715 Advanced Introduction to Machine Learning
 - ▶ 10-725/36-725: Convex Optimization; 10-703 Deep Reinforcement Learning or 10-707 Topics in Deep Learning; 10-708 Probabilistic Graphical Models

Connection to Other AI Courses

- ▶ This course
 - ▶ Broad coverage of AI methods
 - ▶ Recent advances in AI applied to societal challenges
 - ▶ Get in-depth understanding of one topic through course project
 - ▶ Feature guest lectures by researchers working on AI for Social Good

Grading and Workload

Course Component	Weight	Expected Workload
Class Participation	10%	3 hours/week
Biweekly Paper Reading Assignment	20%	3 hours/assignment or 1.5 hours/week
Biweekly Online Homework	20%	3 hours/assignment or 1.5 hour/week
Course Project	50%	3 hours/week for 17-537 6 hours/week for 17-737

Class Format

▶ Lectures

- ▶ Cover both basics of AI methods and case studies of how AI methods are used for social good

▶ Discussion Sessions

- ▶ Common challenges, how to evaluate, ethics, etc
- ▶ How to work on a project under AI for Social Good

▶ In-class quizzes (through Piazza)

Learning Objective

- ▶ Identify societal challenges, determine which AI methods can be applied
- ▶ Describe the AI methods: concepts, models, algorithms, implementation
- ▶ Model the societal challenges and propose how to apply AI techniques
- ▶ Describe evaluation criteria and methodologies of applying AI methods for social good
- ▶ Deliver project report and oral presentation

Late Submission Policy

- ▶ Late submissions will be discounted by 0.7
- ▶ Late submissions will not be peer reviewed and cannot earn peer review points

Textbook and Additional Reference

- ▶ Online textbook: <https://ai4sibook.org/>
- ▶ List of additional resources will be provided (check Canvas and slides)

Academic Integrity

- ▶ Be collaborative, give credits
 - ▶ If you discuss with others, specify names and complete them on your own
- ▶ Leverage resources
 - ▶ If you use publicly available code packages, specify the source
- ▶ Course project reports should follow standard academic integrity policy
- ▶ Cheating and plagiarism cases will be reported
- ▶ See CMU policy on academic integrity for general information
 - ▶ <https://www.cmu.edu/student-affairs/ocsi/academic-integrity/index.html>

Special Needs

- ▶ If you have a disability and require accommodations, please contact Catherine Getchell, Director of Disability Resources, 412-268-6121, getchell@cmu.edu
- ▶ If you have an accommodations letter from the Disability Resources office, discuss with me as early as possible

Student Well-Being

- ▶ Start early! Avoid last-minute panic.
- ▶ CMU services are available, and treatment does work
- ▶ <http://www.cmu.edu/counseling/>
- ▶ 412-268-2922

Today

- ▶ Part I
 - ▶ Course Logistics
 - ▶ Overview of AI for Social Good

- ▶ Part II
 - ▶ Basics of Optimization

What is AI?

- ▶ AI in our daily lives
 - ▶ Web search (Google, Bing)

- ▶ AI leads to transformation and evolution in domains and industries
 - ▶ Finance (Loan, Insurance)

What is AI?

- ▶ AI in our daily lives
 - ▶ Web search (Google, Bing)
 - ▶ Recommender system (YouTube, Facebook, Twitter)
 - ▶ Smart assistant: Siri (Apple), Google, Alexa (Amazon), Cortana (Microsoft)

- ▶ AI leads to transformation and evolution in domains and industries
 - ▶ Finance (Loan, Insurance)
 - ▶ Health (Automated diagnosis)
 - ▶ Public Resource Allocation (School Choice, Kidney Exchange)

How AI impact Society

- ▶ Benefits of AI to society
 - ▶ Reduce human labor
- ▶ Concerns of AI to society
 - ▶ Job loss

How AI impact Society

▶ Benefits of AI to society

- ▶ Reduce human labor
- ▶ Better health care
- ▶ More convenient transportation
- ▶ Higher level of security
- ▶ Better protection of environment
- ▶ Help low resource communities (homeless youth)

▶ Concerns of AI to society

- ▶ Job loss
- ▶ Safety of powerful AI (making decisions)
- ▶ Ethical/moral/legal challenges

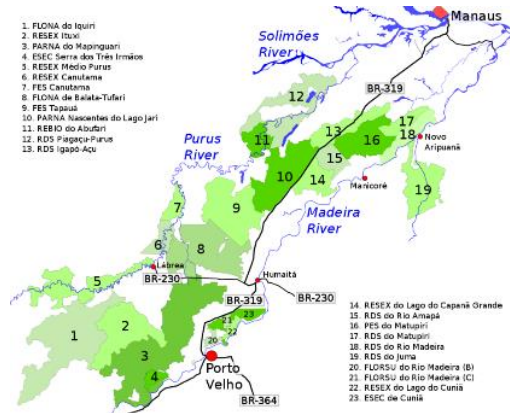
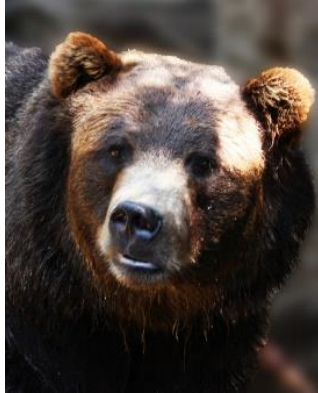
AI for Social Good

- ▶ AI research that can deliver societal benefits now and in the near future

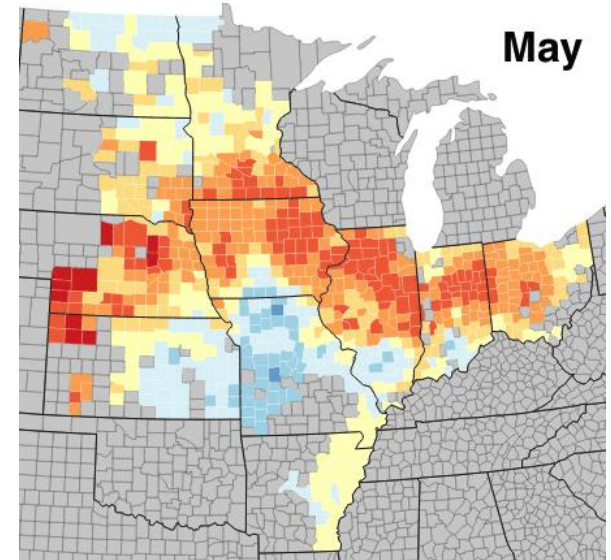


What is AI for Social Good?

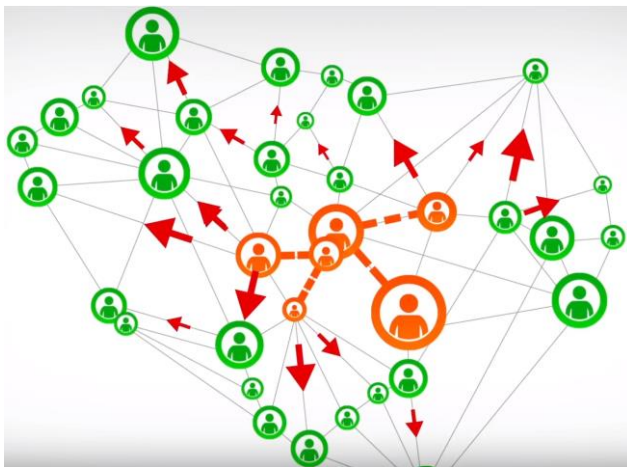
Wildlife Corridor Design



Crop Yield Prediction



Suicide Prevention



Smart Traffic Light Control



Application Domains

 **Agriculture**

 **Education**

 **Environmental sustainability**

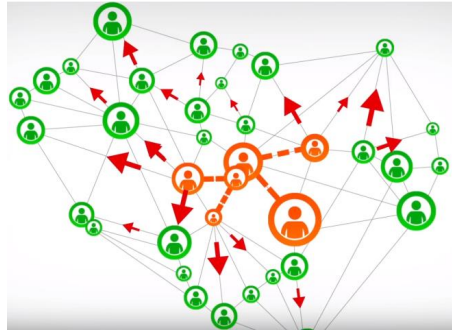
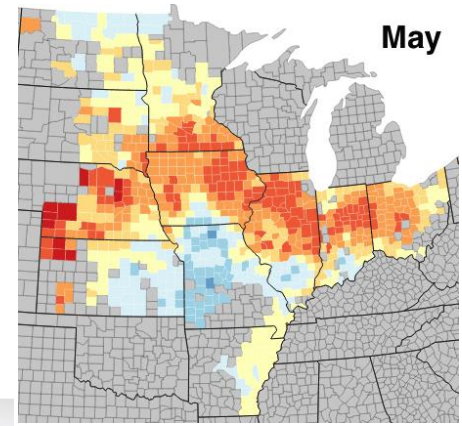
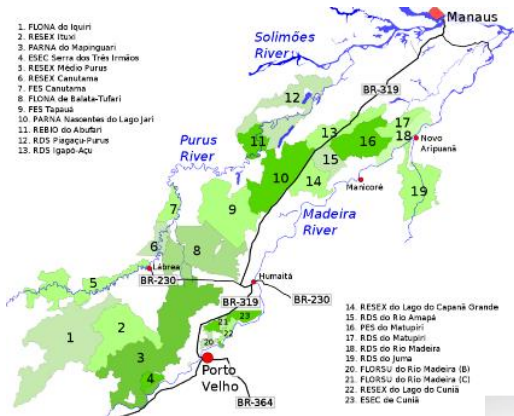
 **Healthcare**

 **Combating information manipulation**

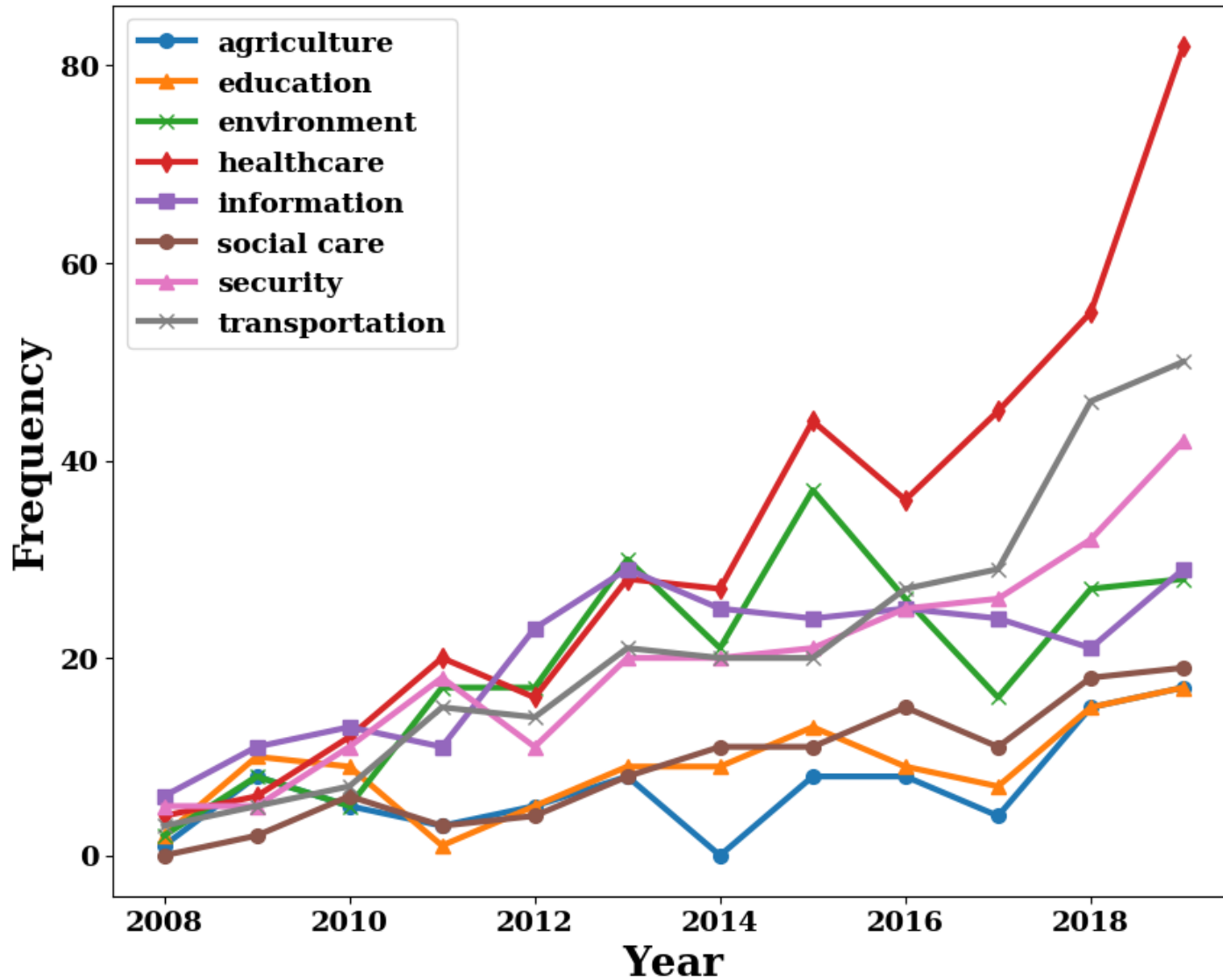
 **Social care and urban planning**

 **Public safety**

 **Transportation**

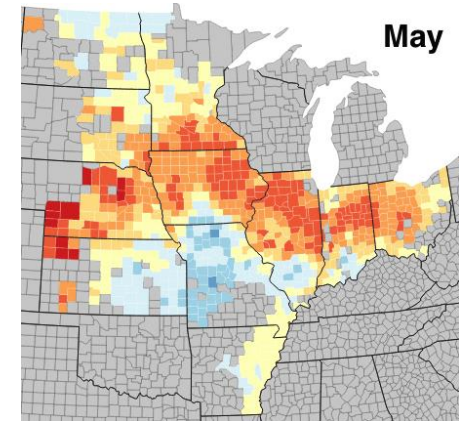


Application Domains



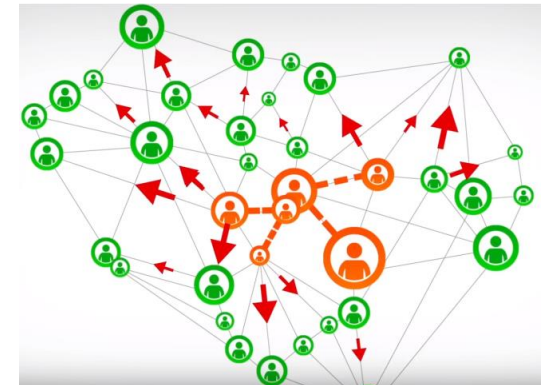
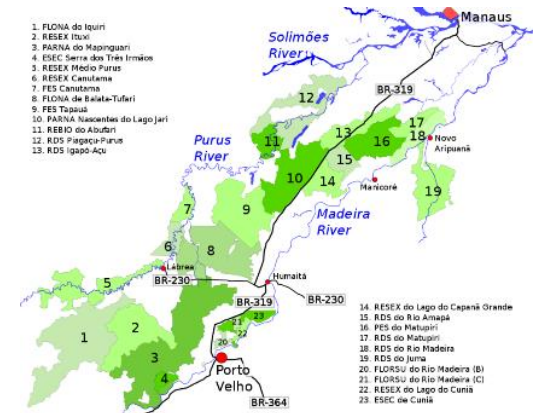
AI Techniques

- • **Computer vision**
- • **Robotics**
- • **Planning, routing, and scheduling**
- • **Multiagent systems**
- • **Natural language processing**
- • **Knowledge representation and reasoning**
- • **Human computation and crowd sourcing**
- • **Constraint satisfaction and optimization**

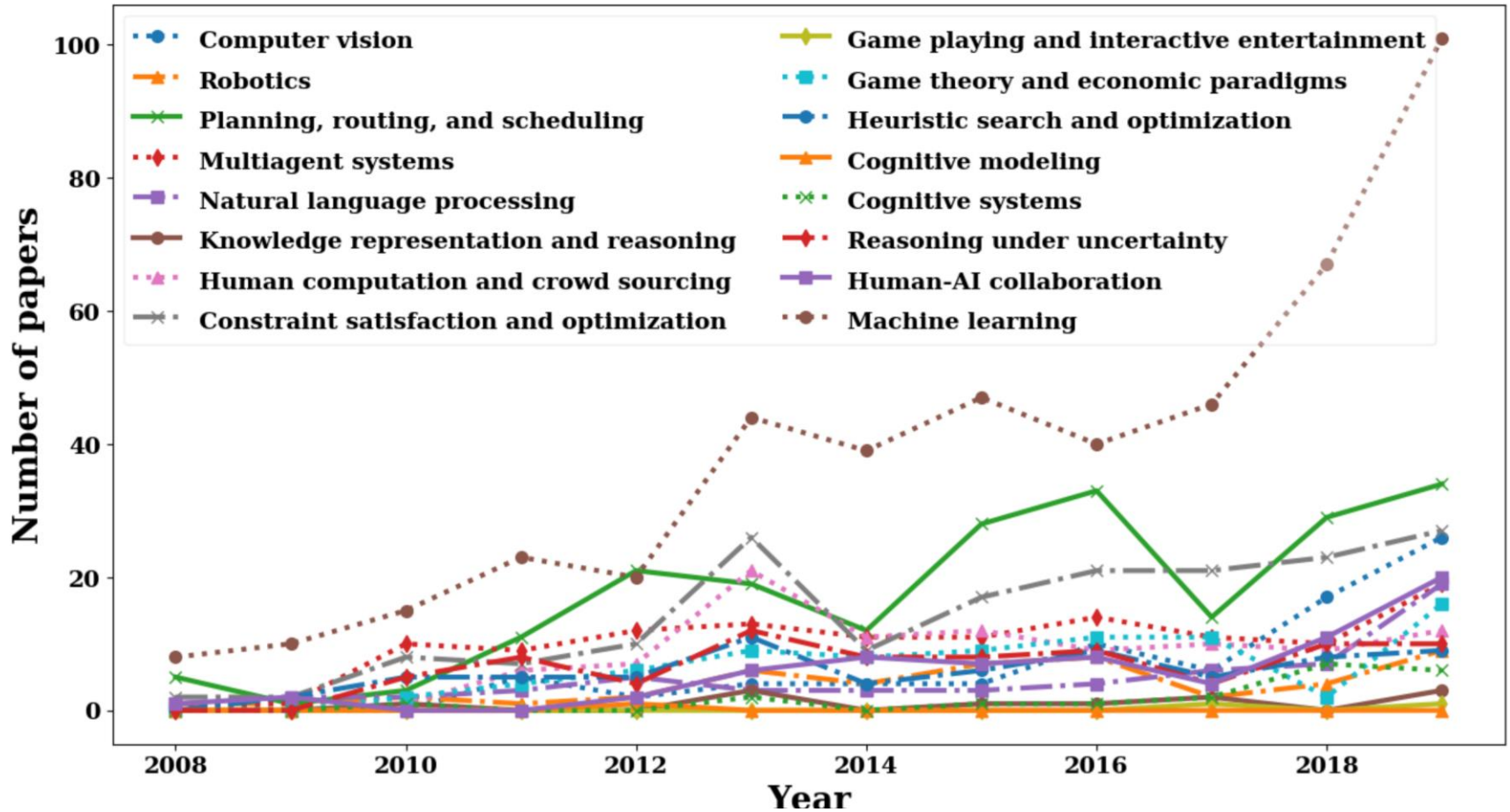


AI Techniques

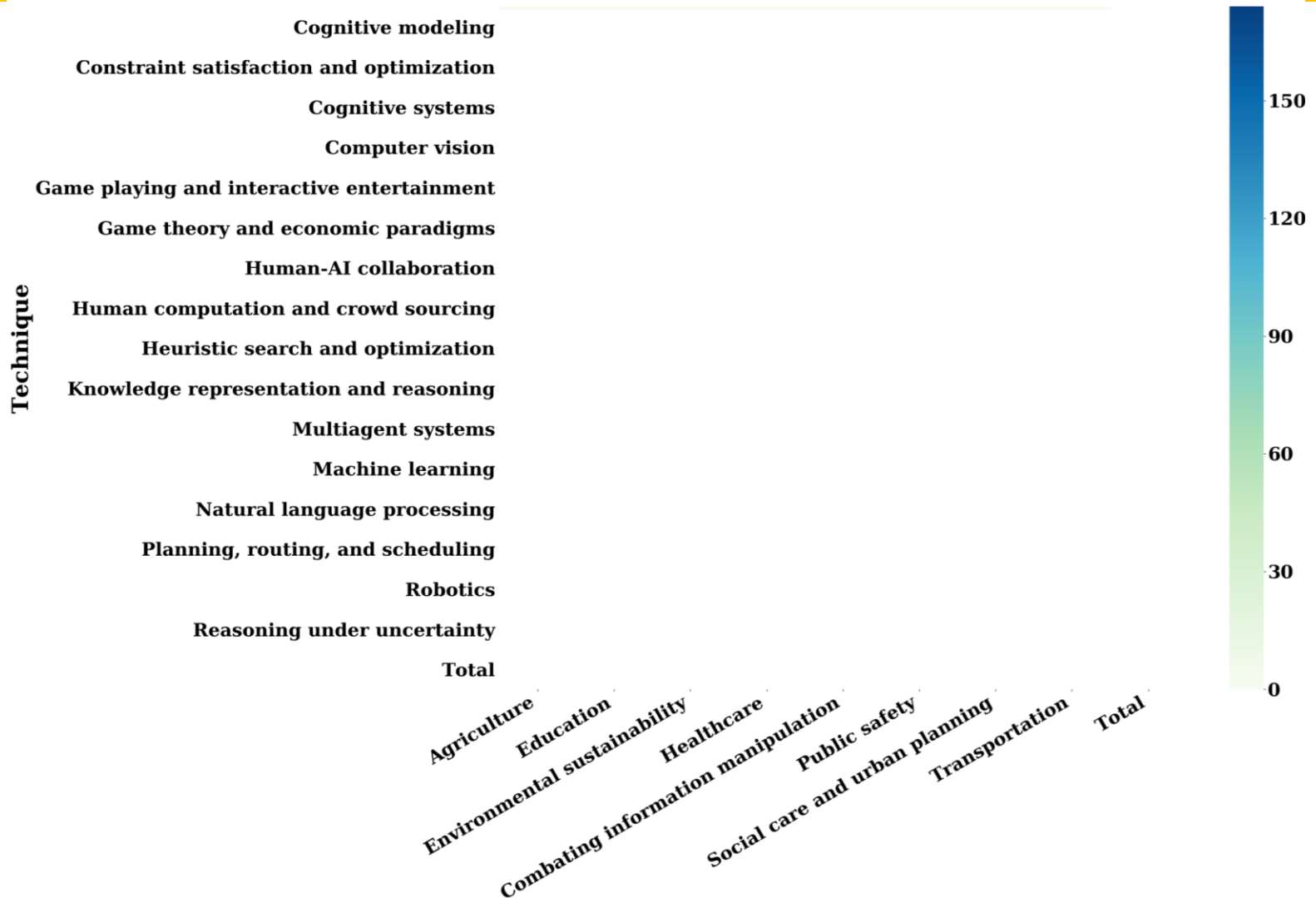
- ◆ Game playing and interactive entertainment
- Game theory and economic paradigms
- Heuristic search and optimization
- ▲ Cognitive modeling
- ✕ Cognitive systems
- ◆ Reasoning under uncertainty
- Human-AI collaboration
- Machine learning



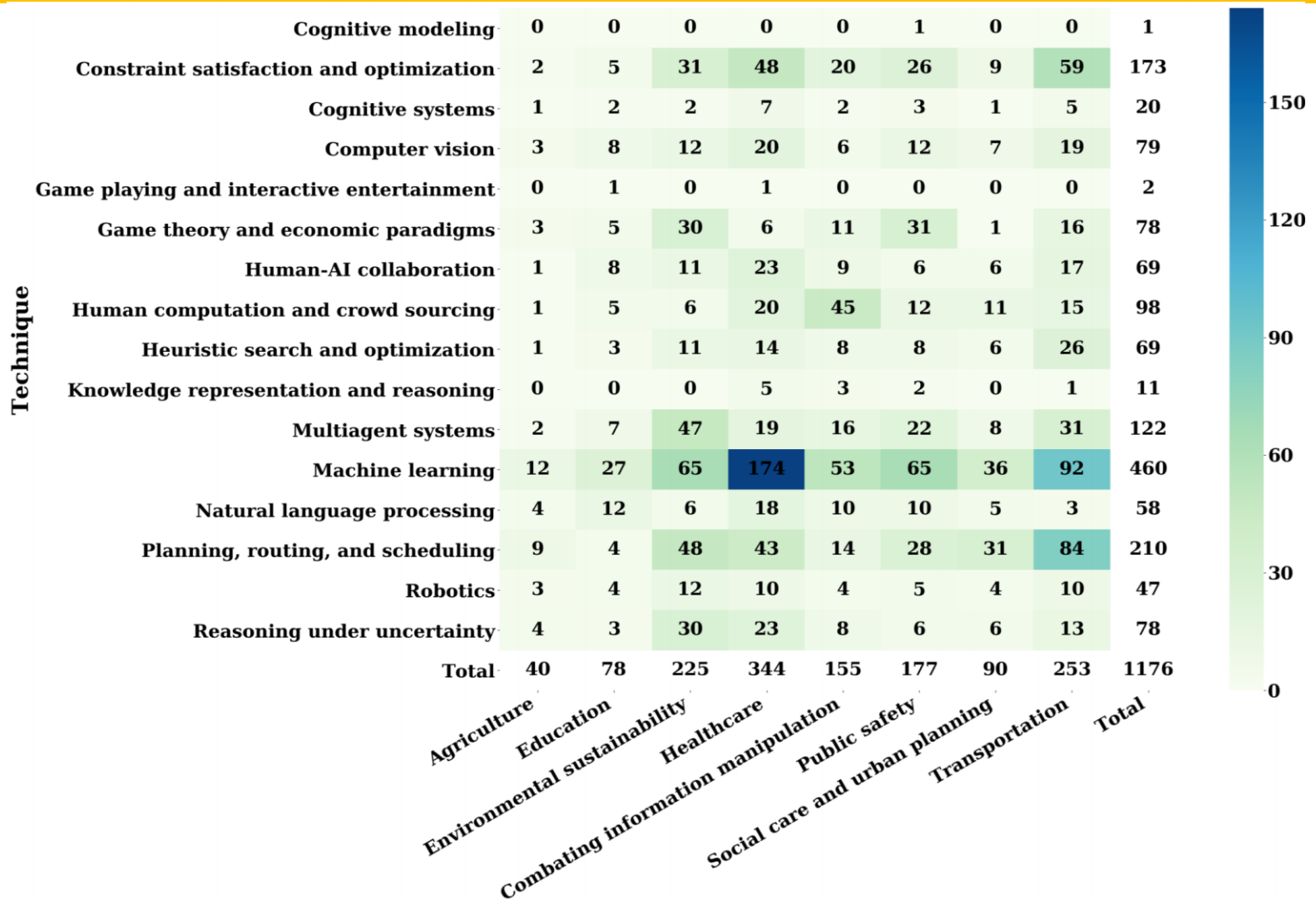
AI Techniques



Application Domains & AI Techniques



Application Domains & AI Techniques



How is AI technology used for social good?

- ▶ According to the scope of problem
 - ▶ Agent
 - ▶ Provide AI-based tools for a user
 - ▶ Improve the quality of life of an individual user

Agent

Identifying Skin Cancer



Not yet
deployed

How is AI technology used for social good?

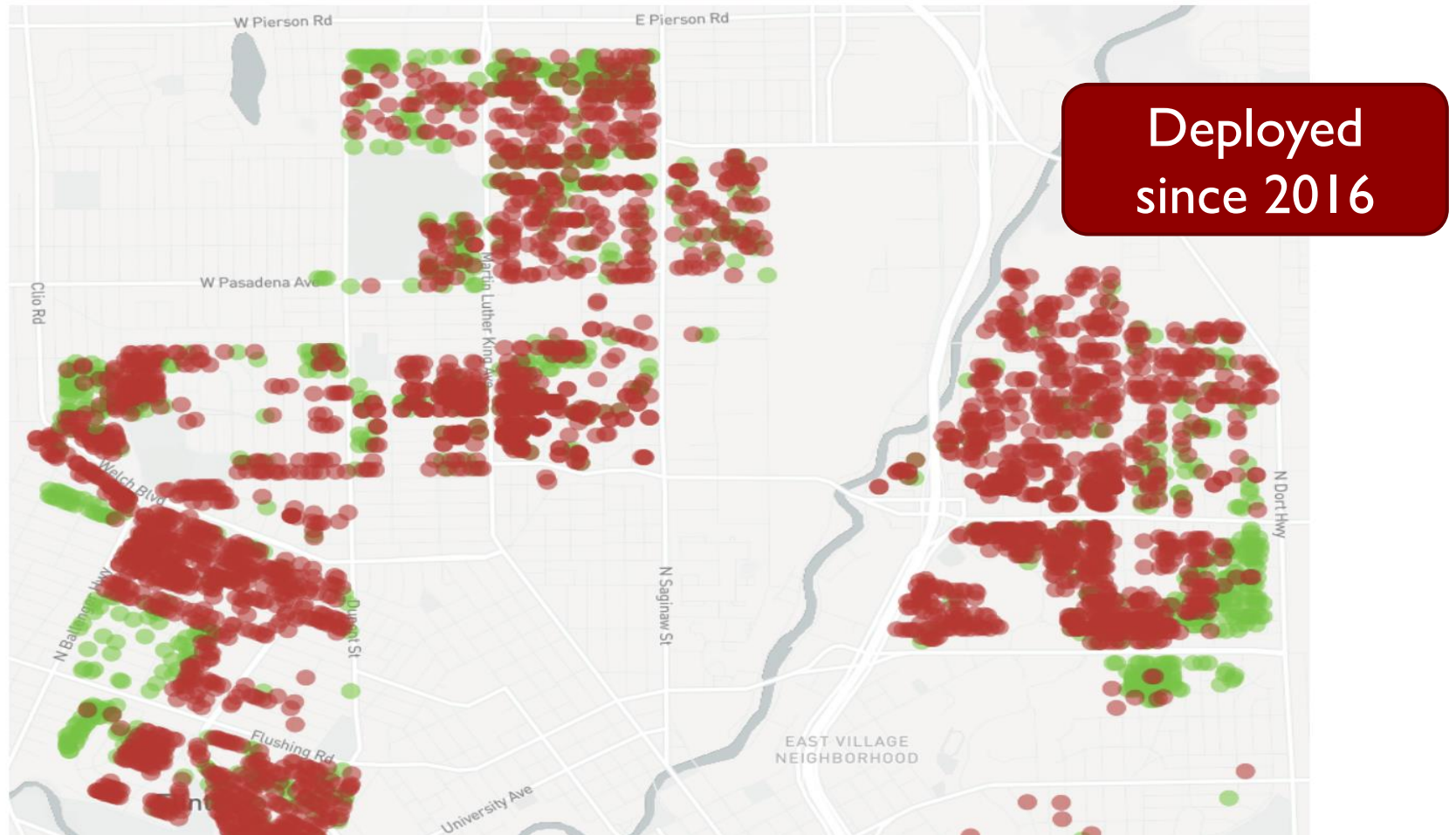
- ▶ According to the scope of problem
 - ▶ Agent
 - ▶ Provide AI-based tools for a user
 - ▶ Improve the quality of life of an individual user
 - ▶ Environment
 - ▶ Involves multiple agents considered as a population
 - ▶ System-level behavior

Poverty Estimation



Environment

Lead Pipes Replacement in Flint, Michigan



How is AI technology used for social good?

- ▶ According to the scope of problem
 - ▶ Agent
 - ▶ Provide AI-based tools for a user
 - ▶ Improve the quality of life of an individual user
 - ▶ Environment
 - ▶ Involves multiple agents considered as a population
 - ▶ System-level behavior
 - ▶ Community
 - ▶ Involves multiple heterogeneous agents with an explicit consideration of their interactions

Community

Raising Awareness about HIV among Homeless Youth



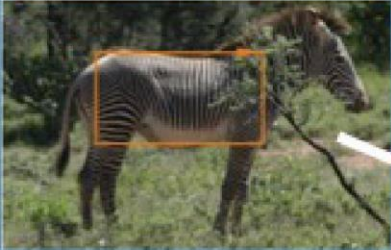
How is AI technology used for social good?

- ▶ According to their functionality
 - ▶ Descriptive
 - ▶ Help stakeholders to get a better understanding of the current situation


Descriptive

Animal Population Census

Who is this?




Database of thousands



Deployed
2015 - Present

Zippy the Zebra!



The diagram illustrates the process of animal population census using a database of thousands of images. It shows a zebra in a field with an orange bounding box around its body, labeled "Who is this?". This image is compared against a large database of thousands of zebra images. The database is labeled "Database of thousands" and "Deployed 2015 - Present". The result is a zebra in a field with an orange bounding box around its body, labeled "Zippy the Zebra!".

How is AI technology used for social good?

- ▶ According to their functionality
 - ▶ Descriptive
 - ▶ Help stakeholders to get a better understanding of the current situation
 - ▶ Predictive
 - ▶ Help stakeholders to get a better understanding of the upcoming future

Identifying Police Officers at Risk of Adverse Events



Piloted & Deployed
2015 - Present

How is AI technology used for social good?

- ▶ According to their functionality
 - ▶ Descriptive
 - ▶ Help stakeholders to get a better understanding of the current situation
 - ▶ Predictive
 - ▶ Help stakeholders to get a better understanding of the upcoming future
 - ▶ Prescriptive
 - ▶ Suggest decisions to decision-makers
 - ▶ Reduce cognitive burden
 - ▶ Improve efficiency/quality of service/fairness

Prescriptive

Kidney Exchange



Deployed
2010 - Present

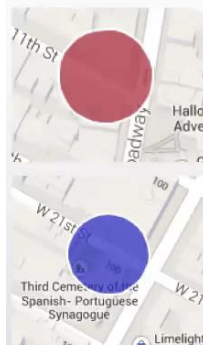


Prescriptive

Bike Sharing Rebalancing

05:00 PM

SYSTEM IMBALANCE



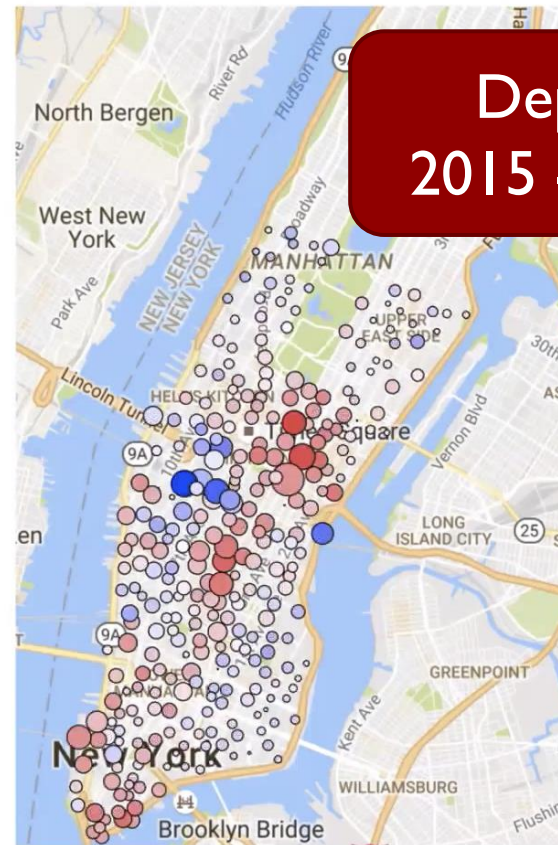
DEPARTING

ARRIVING

DIAMETER ~

BIKES

Deployed
2015 - Present



Created by Cornell Bikeshare Research Group



How is AI technology used for social good?

- ▶ Quiz/Brainstorming: How can AI help agriculture?

Agent	Environment	Community

Descriptive	Predictive	Prescriptive

How is AI technology used for social good?

Agent	Descriptive	Crop disease diagnosis [16]
	Predictive	Crop yield prediction [17]
	Prescriptive	Crop choice recommendation [18]
Environment	Descriptive	Crop growth modeling (Modeling crop disease [16])
	Predictive	
	Prescriptive	Growing conditions prediction (Drought prediction [19])
Community	Descriptive	
	Predictive	Produce price forecasting [20]
	Prescriptive	Alternate market designs (Electronic agriculture marketplace [21])

Reminders

- ▶ Confirm course project group members
 - ▶ Due 1/23, 10pm
- ▶ Online Homework 0 (HW0)
 - ▶ Required, but worth zero points, Due 1/23, 10 pm
- ▶ Paper Reading Assignment I (PRA I)
 - ▶ Due 1/25, 10 pm
- ▶ Project proposal
 - ▶ Due 1/30, 10pm

Backup Slides

Additional Information about Assignments and Course Project

Class participation

- ▶ In-class quizzes (use Piazza)
- ▶ Asking and answering questions in class/on Piazza
- ▶ If accommodation is needed (e.g., cannot attend class at scheduled time), contact TA/instructor

Paper reading assignment

- ▶ Roughly biweekly assignments
- ▶ Summary (1 point)
 - ▶ Cover "target problem", "why is AI needed", "intervention overview", "data used", "resource needed", "deployment status" (check Section 3.3.4 in the [survey paper](#) for reference)
- ▶ Questions (1 point)
 - ▶ Raise at least one question you have or you think is of interest to others
- ▶ Discussion (1.5 points)
 - ▶ A paragraph of discussion. Can be about potential improvement or future direction of the paper, or a brainstorming idea, e.g., discuss a societal challenge and an AI method that can potentially be used to tackle it (not necessarily relevant to the paper)

Online homework assignment

- ▶ Roughly biweekly assignments
- ▶ Under the “Quizzes” tab on Canvas
- ▶ Unlimited attempts, auto-graded, highest score kept

Course Project

- ▶ Progress will be checked through Project Proposal, Project Progress Report 1 and 2, Oral Presentation, and Final Project Report. The proposal and progress report will be peer-reviewed
- ▶ I7737 (12 units): Students work in small groups (1-3 students in each group) on an AI for Social Good project
- ▶ I7537 (9 units): Students work individually on a Kaggle competition (details later) or a project creating a public-facing blog introducing and explaining a paper or a series of papers on AI for Social Good (that is not fully covered in class)

Checkpoints for Course Project

- ▶ **Confirm group members**
 - ▶ No points; Due 1/23
- ▶ **Project Proposal**
 - ▶ 5 points; Due 1/30; Peer-reviewed
- ▶ **Project Progress Report 1**
 - ▶ 5 points; Due 2/27; Peer-reviewed
- ▶ **Project Progress Report 2**
 - ▶ 5 points; Due 3/26; Peer-reviewed
- ▶ **Project Presentation – Oral**
 - ▶ 10 points; Presentation date 4/23 & 4/25
- ▶ **Full Project Report**
 - ▶ 25 points; Due 5/2

Effort-based grading: Get full score if all information required is provided clearly

Peer review is mainly for providing comments and suggestions

Merit-based grading: Evaluated based on quality of work

Course Project Instructions for 17737 (12 units)

Team Formation and Evaluation

- ▶ Allow to have team members from both sessions. Grading follow criteria of 17-737 if any member is from 17-737
- ▶ Advisor is not required and will not be assigned
- ▶ Students are encouraged to reach out to faculty members/senior students/domain experts for advice
- ▶ TA and Instructor can provide feedback and advice during Oh's
- ▶ Evaluation of final report follow [AAAI AI for Social Impact track](#)

Project Proposal (5 points)

- ▶ ≥ 300 words
- ▶ Pin down the societal challenge(s) (0.5 point)
- ▶ Pin down the AI method(s) (0.5 point)
- ▶ Provide a list of references, including news articles or reports that describes the societal challenge, relevant papers, and data source if data-centric (0.5 point)
- ▶ Describe 2~3 envisioned milestones of the proposed project, i.e., the important checkpoints that demonstrate the progress of the project (1 point)
- ▶ Describe the tentative plan of action, including the steps and the expected time needed for each step (1 point)
- ▶ Describe the tentative plan of distributing workload among team members (0.5 point)
- ▶ Provide reasonable comments and constructive feedback to the proposals assigned in peer-review (1 point)

Project Progress Report I (5 points)

- ≥ 1 page double-column (excluding references) following the [AAAI format](#)
- If you choose a format with the approval of the instructor, discuss with the instructor about the length requirement
- ▶ **Grading scheme**
- This report should look similar to a regular paper with multiple sections. However, you can have some placeholders (e.g., short or empty sections if you haven't completed that part of the work yet), and additional sections about your tentative plan of next steps and distribution of workload
- Describe the societal challenge(s) and AI method(s) of interest in this project (in the introduction and related work section) (1 point)
- Describe the progress that has been made towards the milestones (in the sections related to method and evaluation) (2 points)
- Provide an outline of the final report (through the section/subsection titles) (0.5 points)
- Provide a tentative plan of the next steps and distribution of workload (0.5 points)
- Provide reasonable comments and constructive feedback to the proposals assigned in peer review (1 point)

Project Progress Report 2 (5 points)

- ▶ Same requirements as project progress report 1, but with length requirement changed to ≥ 2 pages double column (excluding references)
- ▶ You can reuse the material from project progress report 1. We expect this report to be more “complete” than report 1.

Project Presentation – Oral (10 points)

- ▶ The presenter should be able to convey the following aspects clearly
 - ▶ Motivation (1 point)
 - ▶ Data Set / Domain Description (2 points)
 - ▶ Related work / Background (1 point)
 - ▶ Contribution (2 points)
 - ▶ Evaluation/Results/Summary (2 points)
 - ▶ Future Work (1 point)
 - ▶ Q&A (1 point)

Full Project Report (25 points)

- ▶ ≥ 4 pages in [AAAI format](#) (excluding references) or or choose a format with the approval of the instructor
- ▶ Will be evaluated based on quality of work
- ▶ Final report gets a full score if at the same level as accepted papers at competitive conference venues for work on AI for Social Impact (e.g., AAAI AI for Social Impact track).
 - ▶ Reference: accepted papers at [AAAI 2022 AI for Social Impact Track](#) (starting from page 77)
- ▶ [Evaluation criteria](#) are the same as AAAI 2024 AI for Social Impact Track

Typical Frameworks for Course Project (12 units)

- ▶ Identify a concrete social good problem that AI methods can potentially help
- ▶ Option 1: Data-centric
 - ▶ Look for real-world data and clean/Preprocess data
 - ▶ Develop AI method/algorithm that can be applied to the data
 - ▶ Evaluate method, summarize/visualize result
 - ▶ Discuss insights and lessons learned
- ▶ Option 2: Model/algorithm-centric
 - ▶ Mathematically model the challenge
 - ▶ Propose AI-based solution
 - ▶ Theoretically analyze the model/algorithm
 - ▶ Implement the algorithm and test on simulated or real-world instance
- ▶ For Ph.D. students: recommended to talk to your Ph.D. advisor and choose a project

Selected Previous Course Projects

- ▶ Positioning of Wind Turbines to Promote Renewable Energy
- ▶ Enhanced NLP Based Methods for Clinical Notes Annotation
- ▶ Predicting food insecurity
- ▶ Algorithmic Landmine Risk Prediction
- ▶ A Deep-Learning-Based Approach to Assessing Biodiversity with Satellite Imagery
- ▶ A Multimodal AI Pipeline for Improving Visual Accessibility in Social Media
- ▶ Detection and Localization of Chest X-Ray Abnormalities
- ▶ Using Artificial Intelligence to Predict Population Flux due to Environmental Factors in Climate Change
- ▶ Renewable Energy Production Forecasting and Integration with Electrical Grid
- ▶ Automated Identification of Wheelchair Accessible Outdoor Pathways using Aerial Photogrammetry and Artificial Intelligence
- ▶ Natural Language Processing for Toxic Speech Classification

Selected Previous Course Projects

- ▶ An Analysis of User Interaction with Twitter Social Bots
- ▶ PetitionBot: Converting Anger into Constructive Criticism on Social Media
- ▶ Detection and Identification of Cortical Spreading Depolarizations
- ▶ Richter's Predictor: Modeling Earthquake Damage
- ▶ Early Detection of Mental Health Conditions from Social Media
- ▶ Planning Volunteer Assignments for Ocean and Beach Pollution Cleanup
- ▶ Assessing and Improving Diversity of School Boundaries
- ▶ NLP Emergency Classification using Twitter Data
- ▶ Risk of Opioid Prescriptions
- ▶ Regional Security Cooperation Resource Allocation Using Reinforcement Learning
- ▶ Modeling PM2.5 Pollution Levels in Beijing Using Multivariate Linear Regression
- ▶ Computationally Efficient Neural Networks for Tumor Classification
- ▶ Artificial Intelligence and Mental Health
- ▶ Using Natural Language Processing to automatically detect topics in the Chilean constitutional reform consultation process of 2016

Selected Previous Course Projects

- ▶ An Adversarial Network Approach to Mitigate Mortgage Lending Approval Bias
- ▶ Robust Model-Based Reinforcement Learning for Environmental Sustainability
- ▶ Detecting illegal mining sites via satellite imagery
- ▶ Detecting Hate Speech and Identifying Underlying Topics
- ▶ AI Methods to Aid in Finding New Refugee Resettlement Locations
- ▶ Dissemination of security and privacy information on Twitter
- ▶ Assisting Post-Disaster Aid Deliveries Through Car Counting
- ▶ Classifying Trolls in Twitter Discourse on the Philippine Elections
- ▶ “Watchers”: Extending Patrol Algorithms into a Police Volunteer Patrol Organizer
- ▶ Modeling Observability in Adaptive Systems to Defend Against Advanced Persistent Threats
- ▶ Optimizing Vehicle Routing for Air Quality Mobile Sampling
- ▶ Peer-to-peer ridesharing
- ▶ Domain Registration Policy Strategies and the Fight against Online Crime
- ▶ Real-time stochastic control approach for traffic routing using reinforcement learning algorithm

Course Project Instructions for 17537 (9 units)

General Instructions

- ▶ Students are expected to work individually on the Kaggle competition or the blog post
- ▶ TA and Instructor can provide feedback and advice during OHs

Requirement for Kaggle Competition

- Kaggle Competition
 - Students will participate in one of the following Kaggle competitions (or a different one with the approval of the instructor), which involves real-world data and require practical application of ML techniques.
 - Competitions
 - Forest Cover Type Prediction
 - Bike Sharing Demand
 - Students are expected to analyze the problem and dataset provided in their chosen competition and propose appropriate ML techniques and strategies to solve the problem. Students can discuss multiple approaches and explain the rationale behind selecting a specific method.
- ▶ The grading scheme is similar to the 12-unit session, except that we have a lower expectation on all criteria (e.g., novelty)

Requirements for Blog Post

- ▶ The final version of the blog post will be published on the [course website](#) as a separate webpage
- ▶ The blog post is aimed to introduce and explain a paper or a series of papers on AI for Social Good
- ▶ Target audience: The post should be written at a level so that any senior undergraduate student majoring in computer science can have a good understanding of the overall societal challenge, the problem statement, the AI method, how the AI method helps address the societal challenge, the evaluation, and the impact. In addition, a big portion of the post (at least 50%) should be easily understandable by the general public.
- ▶ Content: The blog post must present a self-contained, cogent, and engaging narrative on this line of research, including a blend of scientific (high-level) and technical exposition.
- ▶ Figures/gifs/tables/videos that add to the exposition and enhance understanding are needed
- ▶ Bibliography optional but inline references to attributions made in the text should be given
- ▶ Submission format: markdown or pdf

Example Blog Posts

- ▶ <https://blog.research.google/2020/01/using-machine-learning-to-nowcast.html>
- ▶ https://blog.research.google/2024/01/amie-research-ai-system-for-diagnostic_12.html
- ▶ <https://research.facebook.com/blog/2023/4/every-tree-counts-large-scale-mapping-of-canopy-height-at-the-resolution-of-individual-trees/>
- ▶ <https://deepmind.google/discover/blog/graphcast-ai-model-for-faster-and-more-accurate-global-weather-forecasting/>
- ▶ <https://deepmind.google/discover/blog/evaluating-social-and-ethical-risks-from-generative-ai/>
- ▶ <https://deepmind.google/discover/blog/codoc-developing-reliable-ai-tools-for-healthcare/>

Project Proposal (5 points)

- ▶ ≥ 300 words
- ▶ Pin down the societal challenge(s) your blog will cover (0.5 point)
- ▶ Pin down the AI method(s) your blog will cover (0.5 point)
- ▶ Provide a list of papers you plan to cover in your blog (0.5 points)
- ▶ Provide a list of envisioned figures/images/tables/gifs/videos to be included in your blog (0.5 points)
- ▶ Describe 2~3 envisioned milestones of the proposed project, i.e., the important checkpoints that demonstrate the progress of the project (1 point)
- ▶ Describe the tentative plan of action, including the steps and the expected time needed for each step (1 point)
- ▶ Provide reasonable comments and constructive feedback to the proposals assigned in peer-review (1 point)

Project Progress Report I (5 points)

- ≥ 800 words + 2 figures/gifs/tables/videos
- ▶ **Grading scheme**
- This report is in the same format as the final blog post. However, you can have some placeholders (e.g., short or empty sections if you haven't completed that part of the work yet), and additional sections about your tentative plan of next steps and distribution of workload
- Draft of blog post with at least 2 figures/gifs/tables/videos (3.5 points)
- Provide a tentative plan of the next steps and distribution of workload (0.5 points)
- Provide reasonable comments and constructive feedback to the proposals assigned in peer review (1 point)

Project Progress Report 2 (5 points)

- ▶ Same requirements as project progress report 1, but with length requirement changed to ≥ 1600 words + 3 figures/gifs/tables/videos
- ▶ You can reuse the material from project progress report 1. We expect this report to be more “complete” than report 1.

Project Presentation – Oral (10 points)

- ▶ The presenter should be able to convey the following aspects of the paper or series of papers clearly
 - ▶ Motivation (1 point)
 - ▶ Data Set / Domain Description (2 points)
 - ▶ Related work / Background (1 point)
 - ▶ AI Methods (2 points)
 - ▶ Evaluation/Results/Summary (2 points)
 - ▶ Future Work (1 point)
 - ▶ Q&A (1 point)

Full Project Report (25 points)

- ▶ ≥ 3200 words + 4 figures/gifs/tables/videos
- ▶ Evaluation is based on the quality of work
- ▶ Evaluation criteria include
 - ▶ Coverage: Check if the blog post covers the key themes, findings, and contributions of the paper or the series of papers comprehensively and accurately
 - ▶ Clarity and Structure: Assess the clarity of the writing and the overall structure of the blog post.
 - ▶ Engagement: Assess how engaging the blog post is for the readers. Does it use engaging language, visuals, or examples to maintain the reader's interest?
 - ▶ Ethical Considerations: Consider whether the blog post discusses any ethical implications or considerations related to AI for Social Good.
 - ▶ Depth of Analysis: Evaluate the depth of analysis provided in the blog post. Does it go beyond summarizing the papers to offer critical insights, interpretations, or connections to real-world applications?