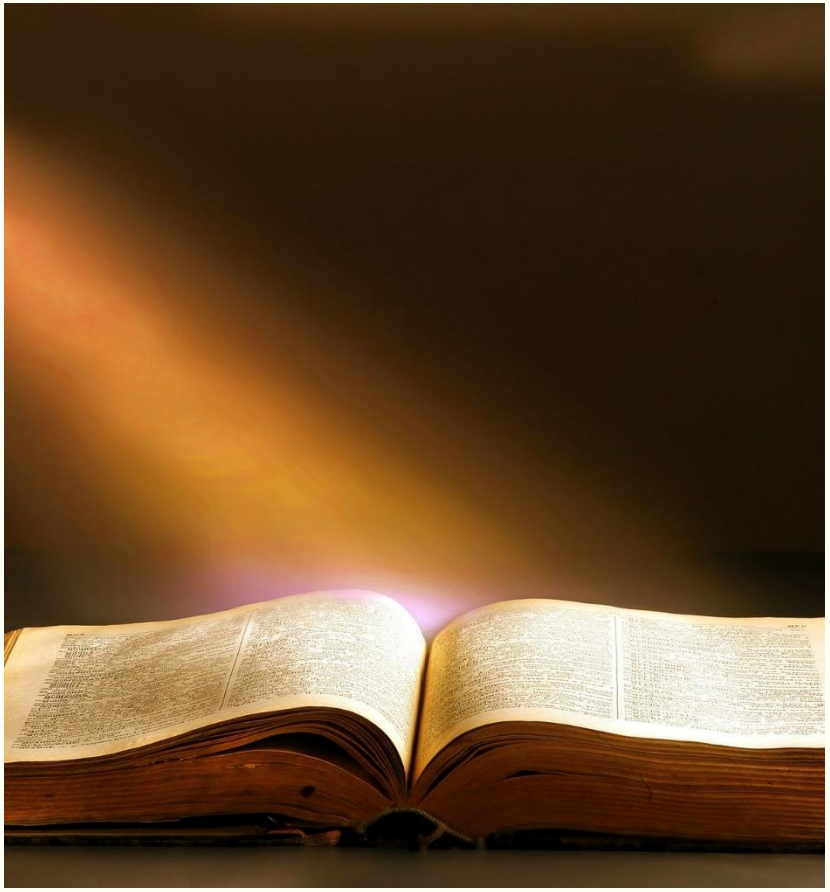
To Cultivate Artificial Intelligence Talent

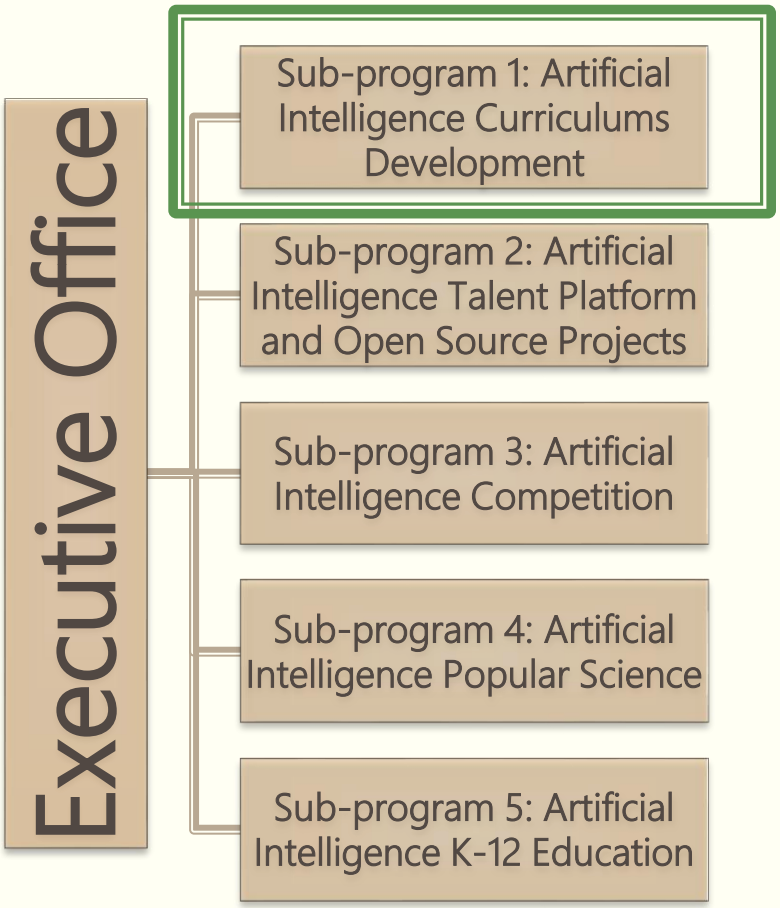


Hsuan-Tien Lin, National Taiwan University
Wen-Chi Peng, National Chiao Tung University
Yi-Shin Chen, National Tsing Hua University

2018/05/04

Artificial Intelligence Talent Cultivation Project

- Supported by Department of Information and Technology Education, Minster of Education
- Lead by Prof. Shou-De Lin, National Taiwan University



- Develop and lay out artificial intelligence course map and knowledge pool.
- Create and promote artificial intelligence courses on massive open online courses platform.

Courses for Different Talents

	Introduction to AI	Courses for AI Foundation	Advanced Courses	Application Courses
Talents for AI Applications	Y	Y		Y
Talents for AI Techniques	Y	Y	Y	X
Talents for AI Systems	Y	X（Clouds or Big Data）		X
General Public	Y			

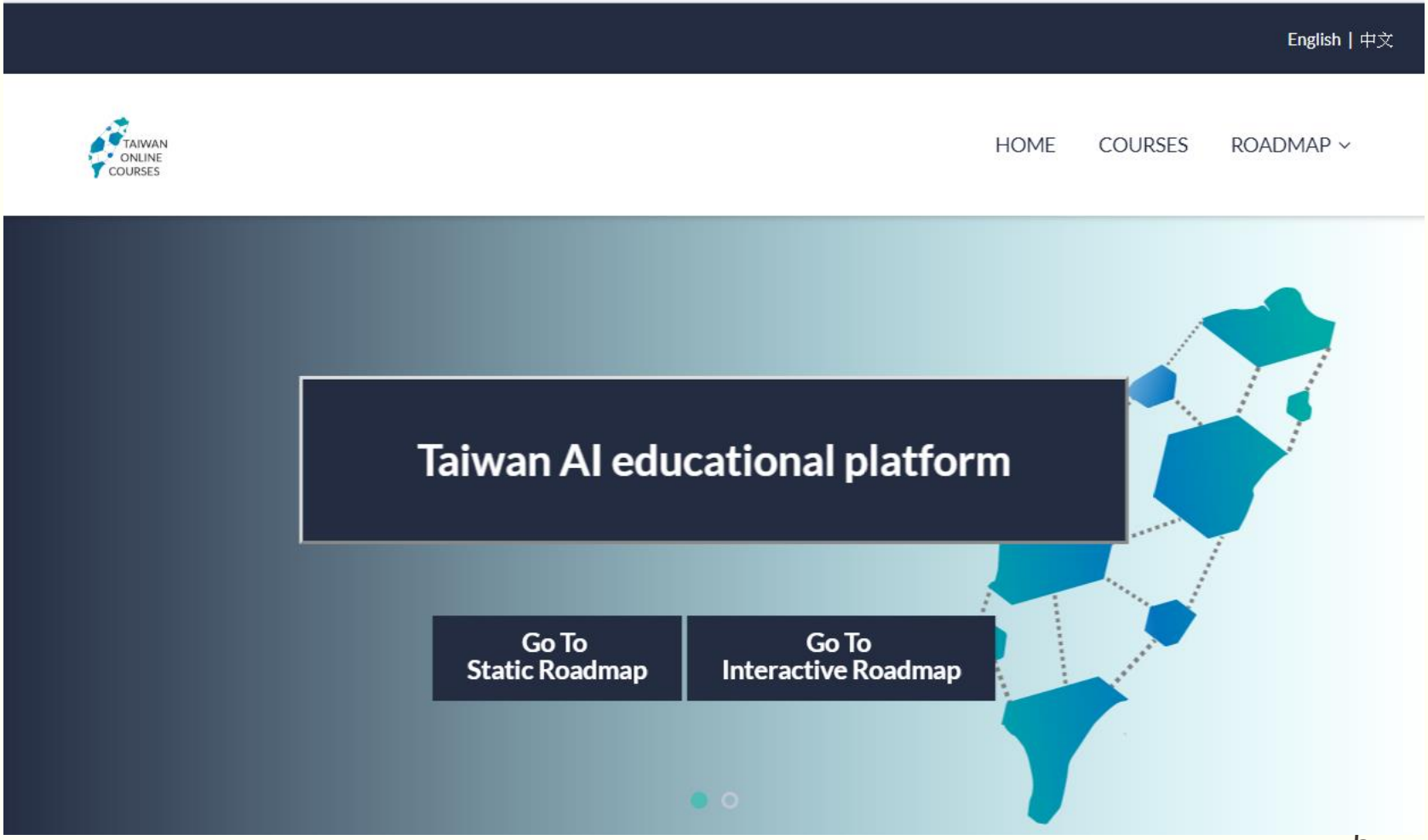
Y：Familiar　　X: Partial Familiar

Road Map of AI Curriculums

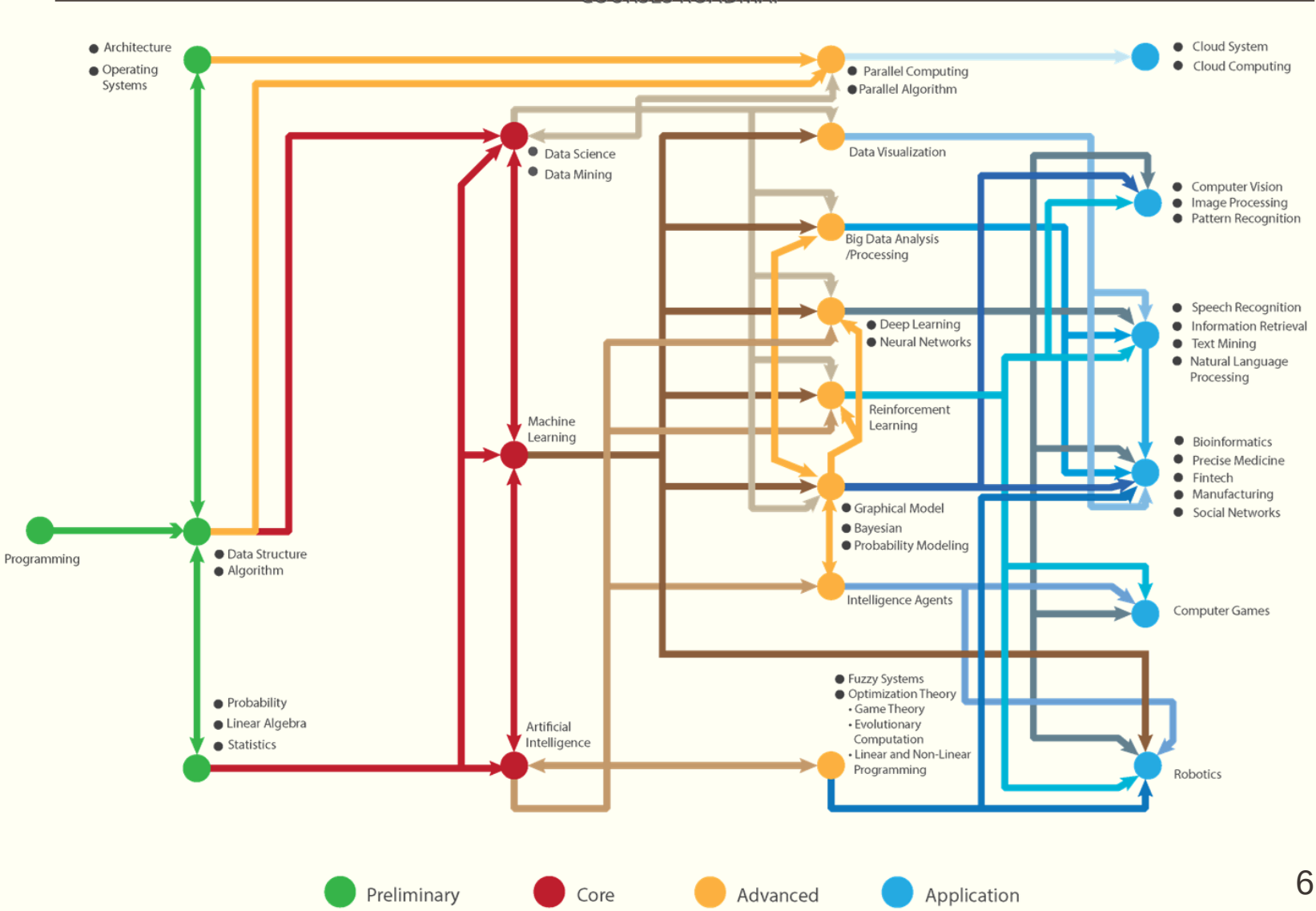
- Preparation:
  - Collect course data from USA Top 15 AI universities
  - Collect course data from Taiwan
  - List all AI related online courses
- Several consultation meetings with AI experts

Taiwan AI Educational Platform

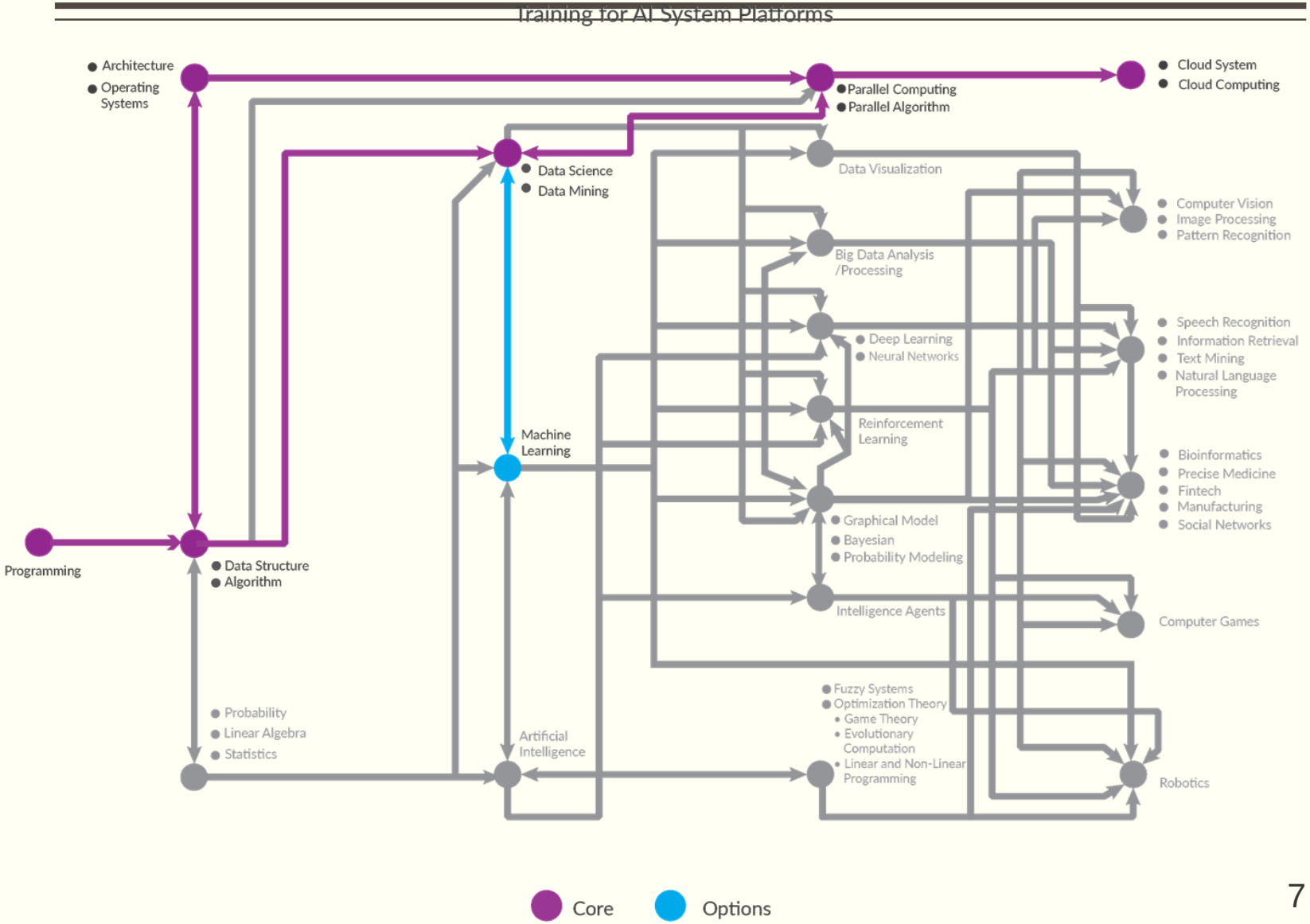
- https://idea.cs.nthu.edu.tw/~AIcoursemap/home/index



Road Map of AI Curriculums

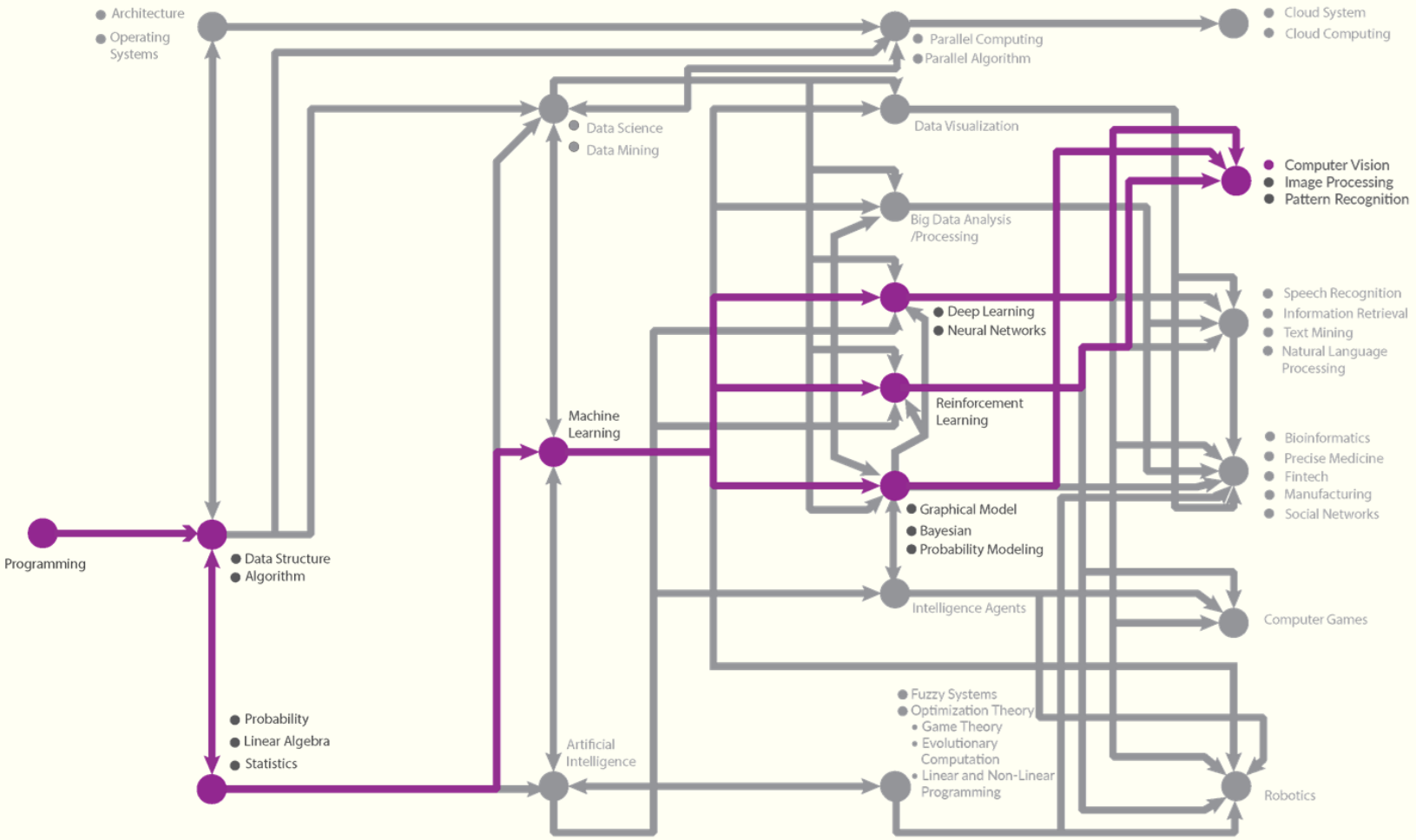


Road Map for AI System Platforms



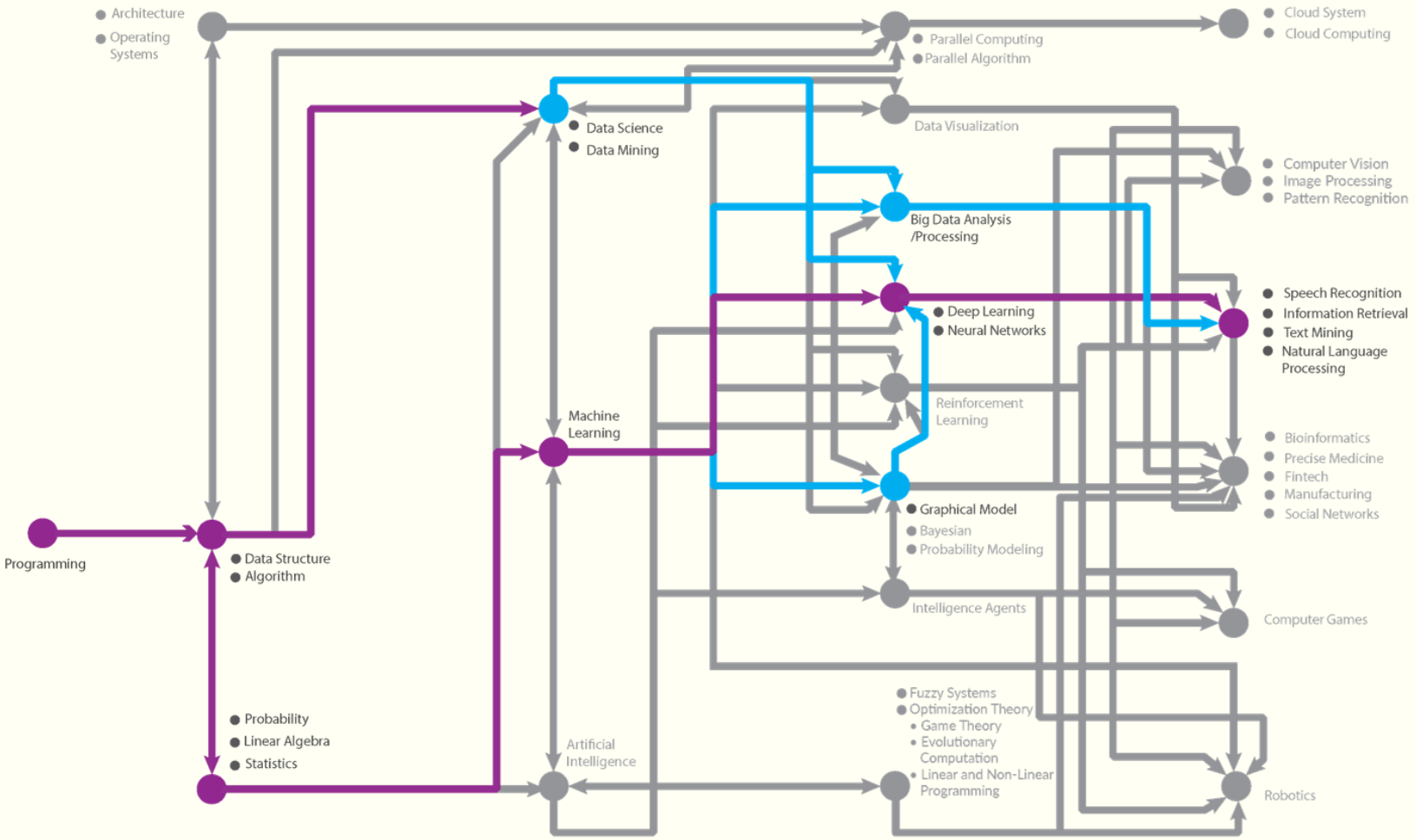
Road Map for Computer Vision

Training for AI Computer Vision

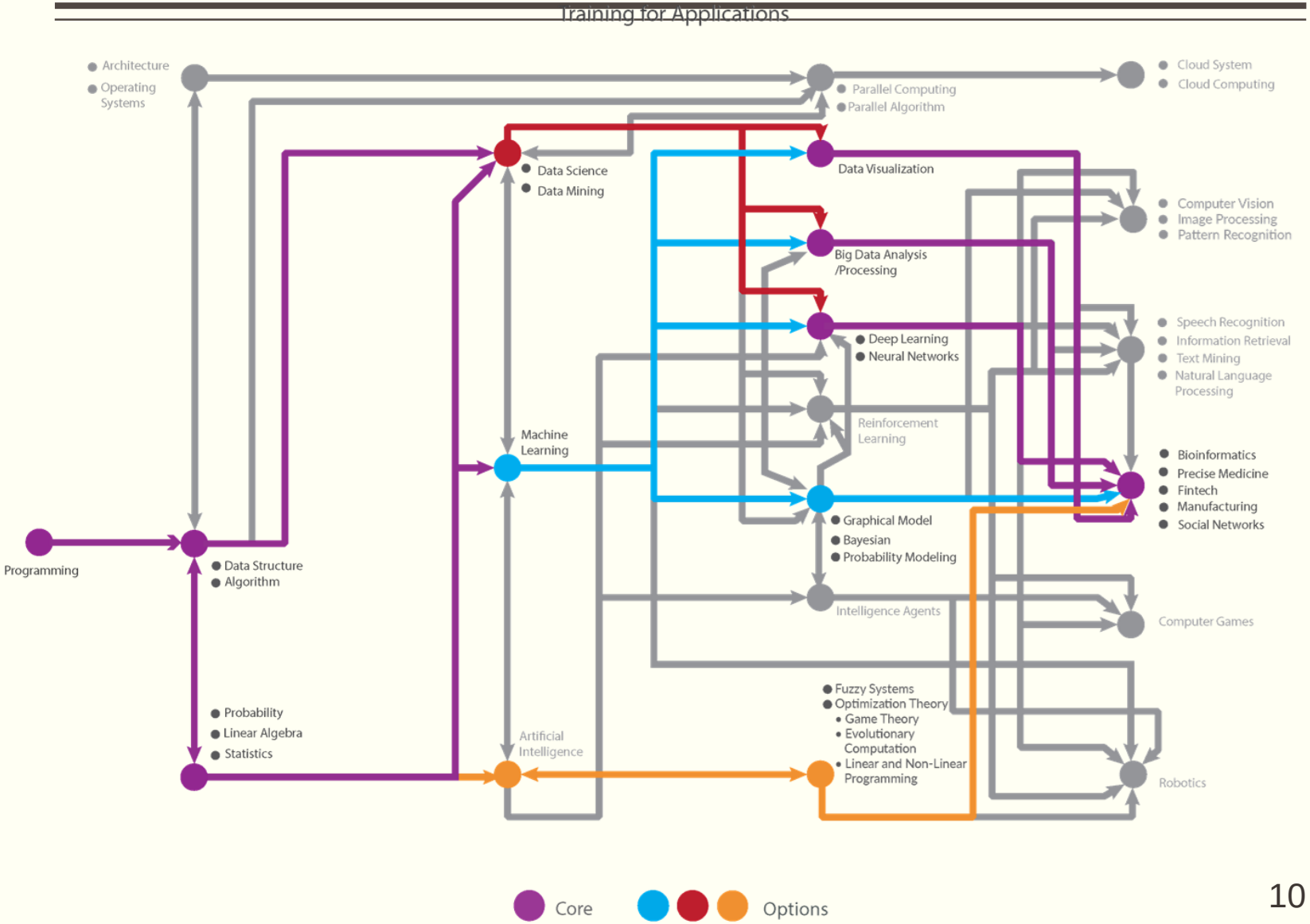


Road Map for Natural Language Processing

Training for Natural Language Processing

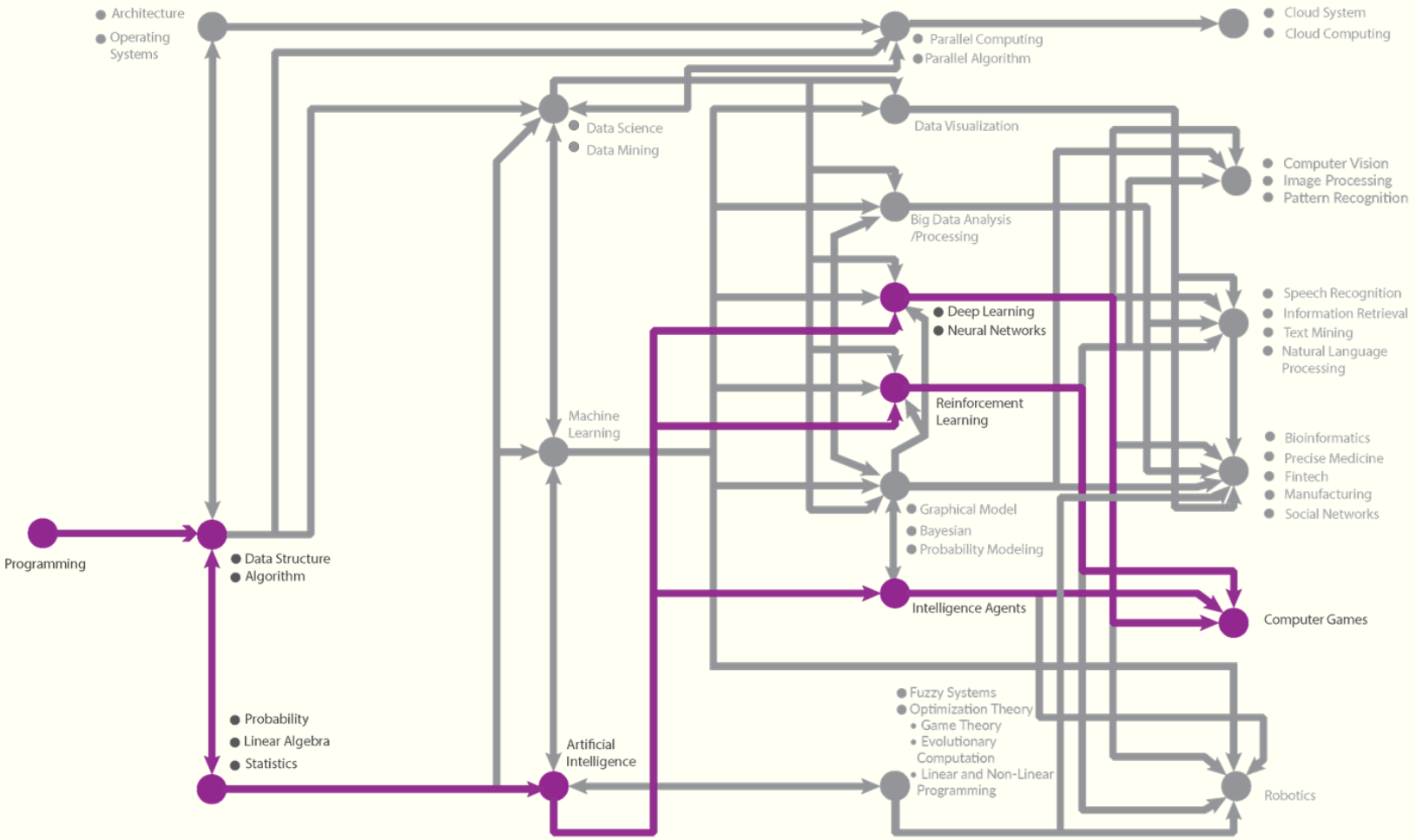


Road Map for AI Applications

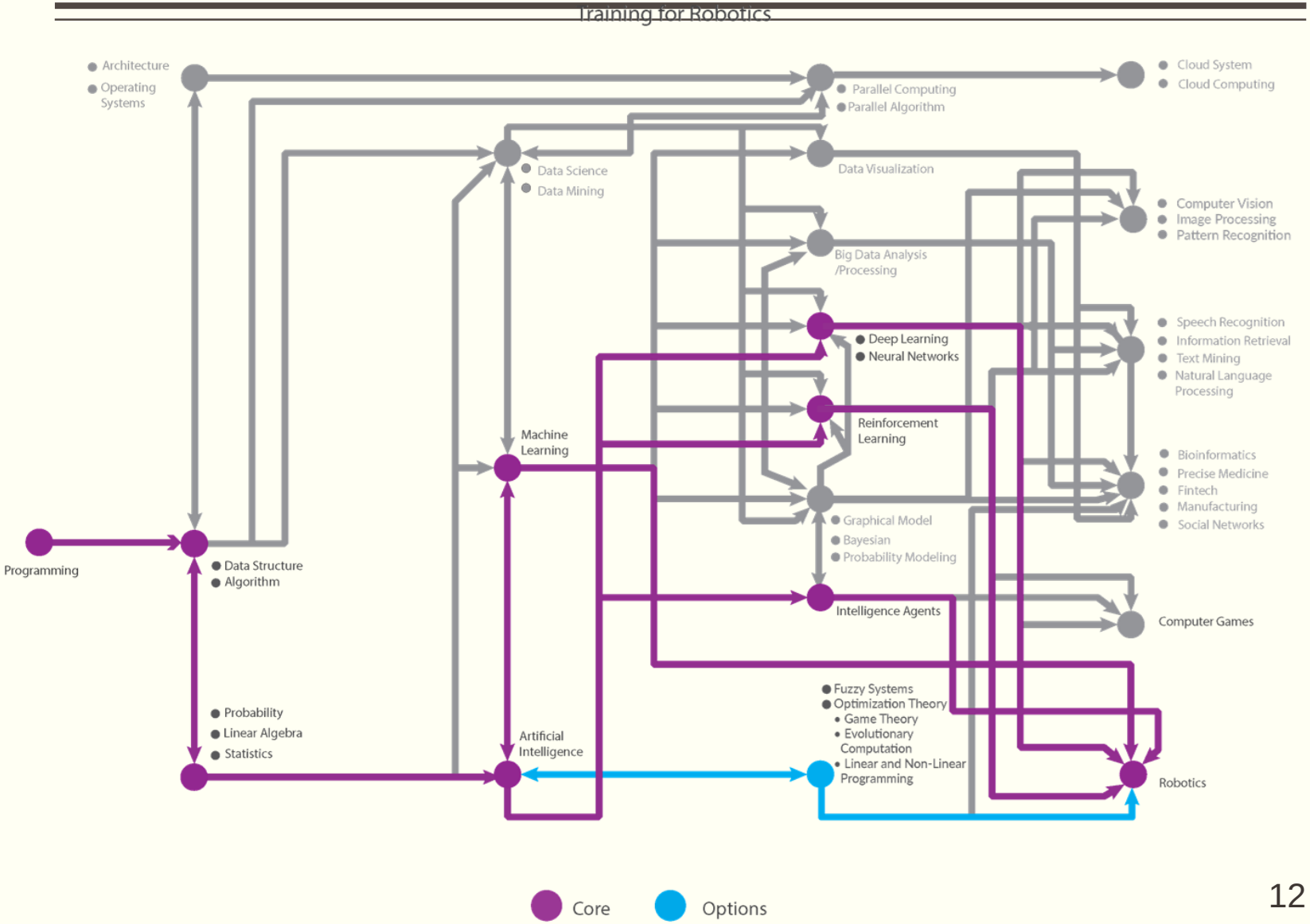


Road Map for Computer Games

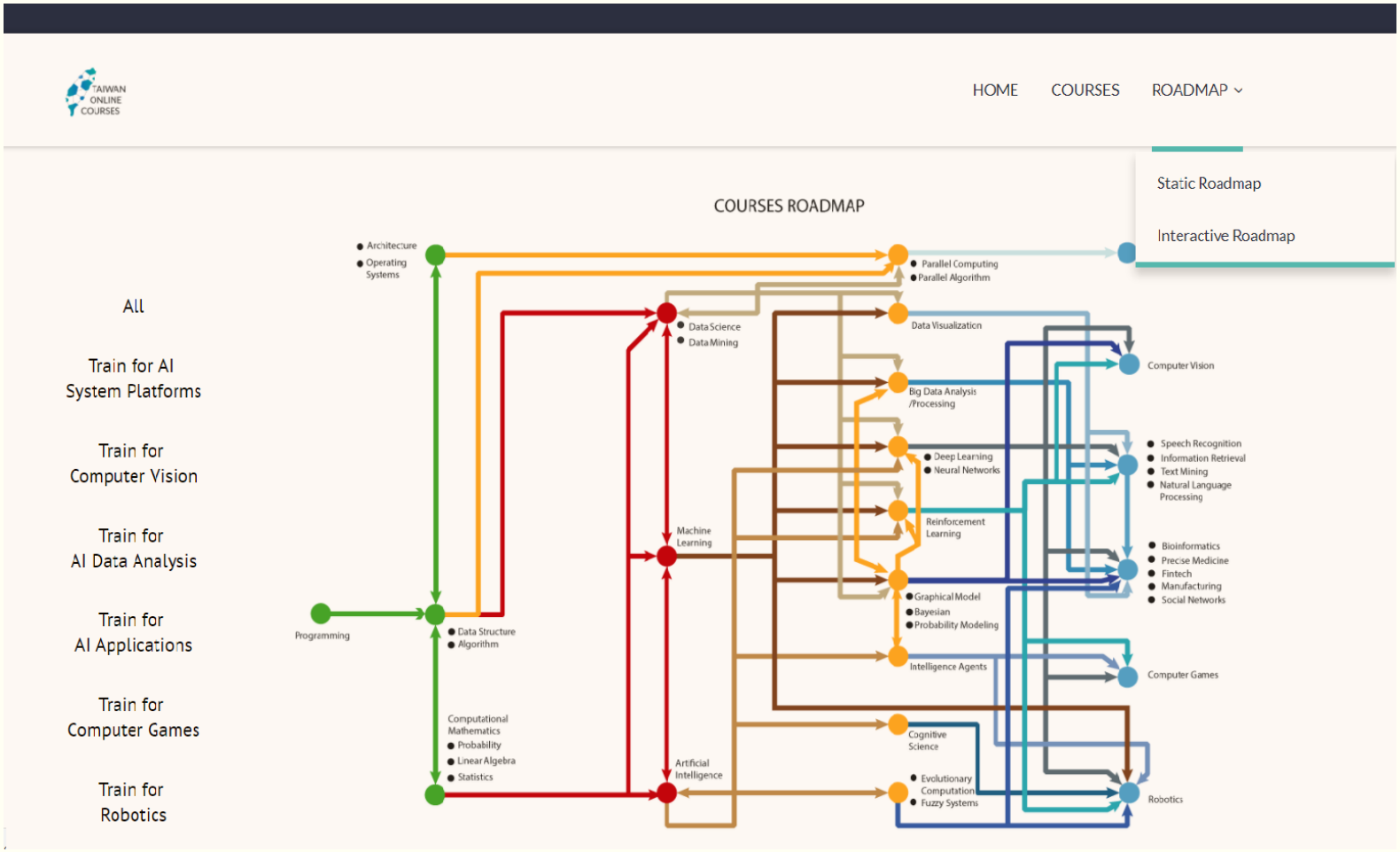
Training for Computer Games



Road Map for Robotics



Interactive Road Map

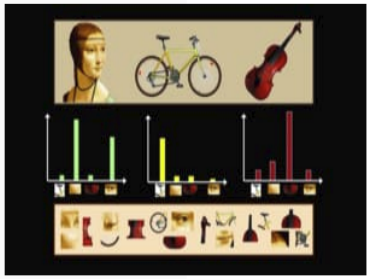


Course List

Introduction To Computer Vision

Udacity | Aaron Bobick,Irfan Essa,Arpan Chakraborty

This course provides an introduction to computer vision including fundamentals, methods for application and machine learning classification.

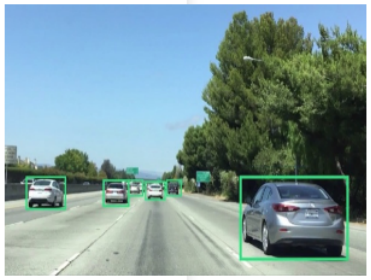


UDACITY

Self-Driving Car Engineer - Computer Vision

Udacity |

Construct computer vision pipelines for lane detection and vehicle tracking.



UDACITY

Artificial Intelligence - Computer Vision

Udacity |

Course List

- Online courses in English
  - MIT, Udacity, Coursera
- Online courses in Chinese
  - TaiwanMOOC, eWant
- Taiwan’s physical courses

Request for Proposals for AI Curriculum

- To design AI curriculum, which can train students to apply AI techniques into the specific application.

- 為引導大學校院規劃人工智慧相關課程，展現人工智慧領域多元方向與不同的技術之間的連結與相依關係，並規劃一個出合適的學習歷程，以培育人工智慧實務人才。

Proposal Details

- Duration: From Approval to 2020/01/31
  - 計畫期程 ：自核定日期至109年01月31日
- Select one talent track to design, the curriculum should contain at least four courses
  - 由上述6大人才學習路徑，擇一路徑規劃系列課程 (至少4門)
- The class materials should be adapted to fit the final applications
  - 核心與進階課程設計應依據所選擇的應用課程內容加以調整，如習題應用或上課範例應對應到課程主題學習路徑。
- The courses in the curriculum should have dependency characteristics
  - 此為系列課程，課程與課程間必須有其連貫性。
- The application courses should match the needs of industry
  - 應用課程建立業界接軌機制

Expected Outcomes

- Course materials
  - Syllabus, teaching approaches/environment, evaluation metrics, feedback mechanism
- Assessment materials
  - Examination questions, assignments, grading distributions.

1.教案手冊(規劃)	2.教學準備(課前)	3.學習成效評估紀錄(課後)
內容應至少 包括課程宗旨與學習目標、課程綱要導引、教學方法、實務課程設計、教學環境準備、課程配套、學習成效評量、學習互動與回饋等機制等	包含課堂教學所需講義(教材)、教學工具、教學環境布建說明等。	包含作業以及考卷設計、以及相關作業及考試的得分分布圖，用以了解學生學習成效、在未來可以提出課程改進方案。

Budget

- The project will be fully supported.
- Each proposal will supported around 800K
  - 本計畫為全額補助。本部最高補助額度，每一系列課程計畫以**新臺幣80萬元**為原則。 (依最後本部公告為主)
- Budget can cover:
  - Personnel expense (not more than 50%)
  - Equipment expense (not more than 10%)
  - Any other expense

Contact

- Yi-Shin Chen, yishin@gmail.com
- Trista Liu, itliu@mx.nthu.edu.tw

聯絡窗口	電話	E-Mail
計畫主持人 國立清華大學 資管系 陳宜欣副教授	電話:(03)5715131 轉33495	yishin@gmail.com
計畫聯絡人 國立清華大學 陳秋河、劉怡廷助理		itliu@mx.nthu.edu.tw
計畫協同主持人 國立交通大學 彭文志 教授	03-57131478	wcpeng@cs.nctu.edu.tw
計畫協同主持人 國立台灣大學 林軒田 教授	02-33664888	htlin@csie.ntu.edu.tw