

|      |       |         | AC215 FALL 2024 SCHEDULE  |                                |
|------|-------|---------|---|--------------------------------|
| Week | Date  | Session | Lecture   | Milestones/HW due dates        |
| 1    | 9/3   | 1       | Introduction  |                                |
|      | 9/5   | 2       | LLM tools and agents 1: LangChain, LlamaIndex, API calls, RAG, AI agents  |                                |
| 2    | 9/10  | 3       | LLM tools and agents 2: LangChain, LlamaIndex, API calls, RAG, AI agents  |                                |
|      | 9/12  | 4       | Virtual Enviroments and Virtual Machines  |                                |
| 3    | 9/17  | 5       | Containers I  |                                |
|      | 9/19  | 6       | Containers II   | M1 - 09/20                     |
| 4    | 9/24  | 7       | Data Pipelines/ Data Management: Extract, Transform, Load (ETL) and Data Version                                    |                                |
|      | 9/26  | 8       | TF Data, TF Records, PyTorch Dataset, DataLoader, Cloud Storage   | HW1 - 09/27                    |
| 5    | 10/1  | 9       | Large Data for Computer Vision and LLMs   |                                |
|      | 10/3  | 10      | Advanced training workflows: experiment tracking (W&B), multi GPU, serverless training (Vertex AI), LLM fine tuning |                                |
| 6    | 10/8  |         | PROJECT WEEK  |                                |
|      | 10/10 |         |   |                                |
| 7    | 10/15 | 11      | Model Optimization: Distillation, Quantization, Compression, and LORA   |                                |
|      | 10/17 | 12      | Model Deployment: Hosting, APIs, and Serving LLMs   | M2 - 10/18                     |
| 8    | 10/22 | 13      | Model performance monitoring, data drift, or other post release items   |                                |
|      | 10/24 | 14      | Testing, Cloud Functions, Cloud Run, Kubeflow, Vertex AI Pipelines  |                                |
| 9    | 10/29 | 15      | Automating Software Development: CI/CD with GitHub Actions and other tools  |                                |
|      | 10/31 |         | Midterm   | M3: Mldterm Presentation 10/31 |
| 10   | 11/5  | 16      | App design, setup and code organization<br>APIs & Frontend  |                                |
|      | 11/7  | 17      |   | HW2 - 11/8                     |
| 11   | 11/12 | 18      | Frontend - React  |                                |
|      | 11/14 | 19      | Deployment: Ansible   | M4 - 11/15                     |
| 12   | 11/19 | 20      | Scaling: Kubernetes   |                                |
|      | 11/21 | 21      | Final: CI/CD releases etc   |                                |
| 13   | 11/26 |         | THANKS GIVING WEEK  |                                |
|      | 11/28 |         |   |                                |
| 14   | 12/3  |         | PROJECT TIME  | HW3 - 12/2                     |
|      |       |         |   |                                |
|      | 12/11 |         | DELIVERABLES DEADLINE   | M5 - 12/11                     |