# CAPSTONE PROJECT

# NSAP SCHEME ELIGIBILITY PREDICTION USING ML

**Presented By:**
**1. Bettam Anand - JNTUH UCE Palair - CSD (Data Science)**

edunet foundation

# OUTLINE

- Problem Statement
- Proposed System/Solution
- System Development Approach
- Algorithm & Deployment
- Result
- Conclusion
- Future Scope
- References

# PROBLEM STATEMENT

- NSAP provides financial support to elderly, widows, and disabled persons from BPL households
- Manual scheme verification and allocation is slow and error-prone
- Delay or misallocation can deny rightful support to applicants
- Need for automated prediction of the correct NSAP scheme using applicant data

# PROPOSED SOLUTION

- Use of machine learning (multi-class classification) to predict the correct NSAP scheme
- Input features include demographic and socio-economic attributes
- Model predicts:

1) IGNOAPS (Old Age)
2) IGNWPS (Widows)
3) IGNDPS (Disability)

- Entire system built and tested on IBM Cloud Lite (Free Tier)
- No coding required – used AutoAI and deployment UI

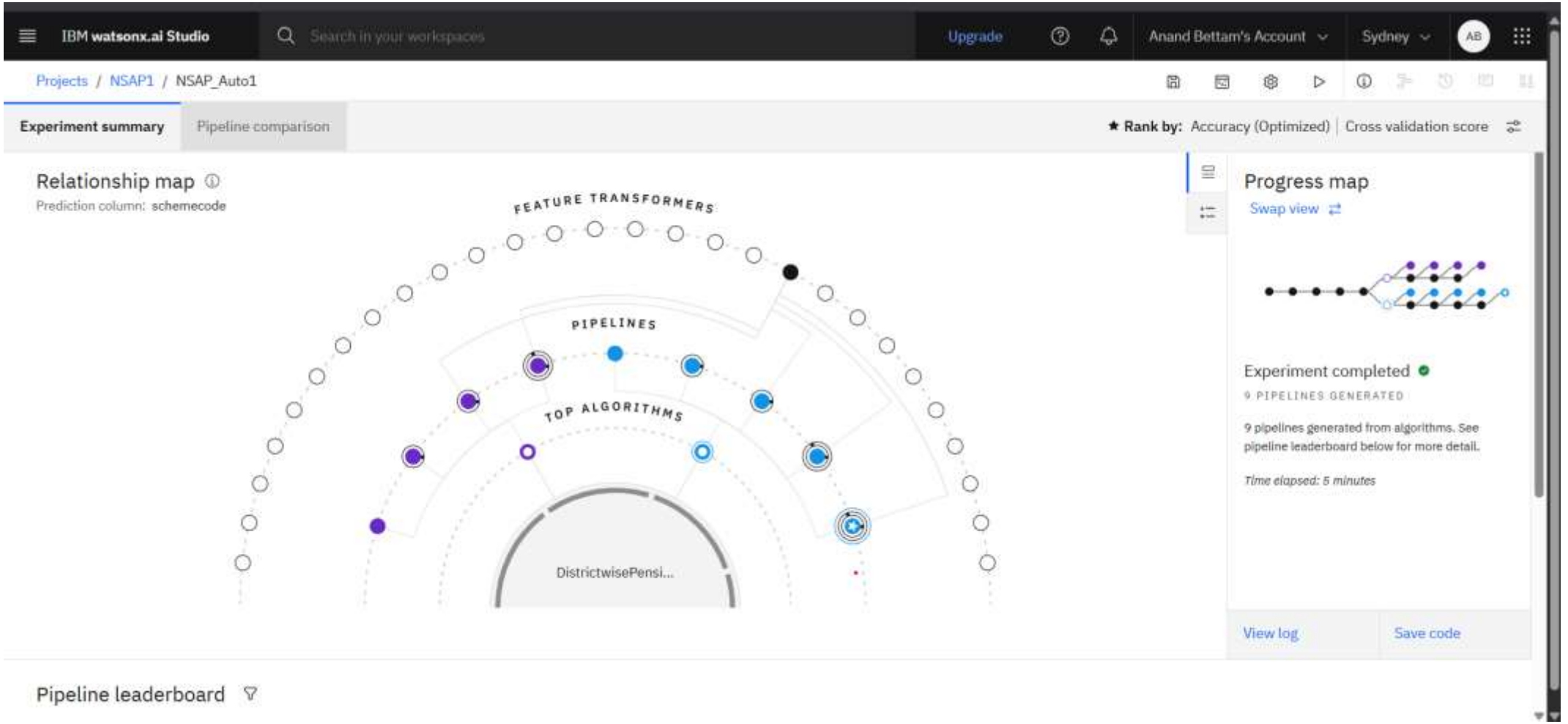
# SYSTEM APPROACH

- IBM Watsonx.ai Studio (Lite)
- IBM AutoAI (Automated ML Model Training)
- IBM Watson Machine Learning Deployment
- AIKosh NSAP dataset (CSV format)
- Dataset uploaded directly to Watsonx
- Input/output in CSV or JSON formats
- No manual model tuning – AutoAI handles everything

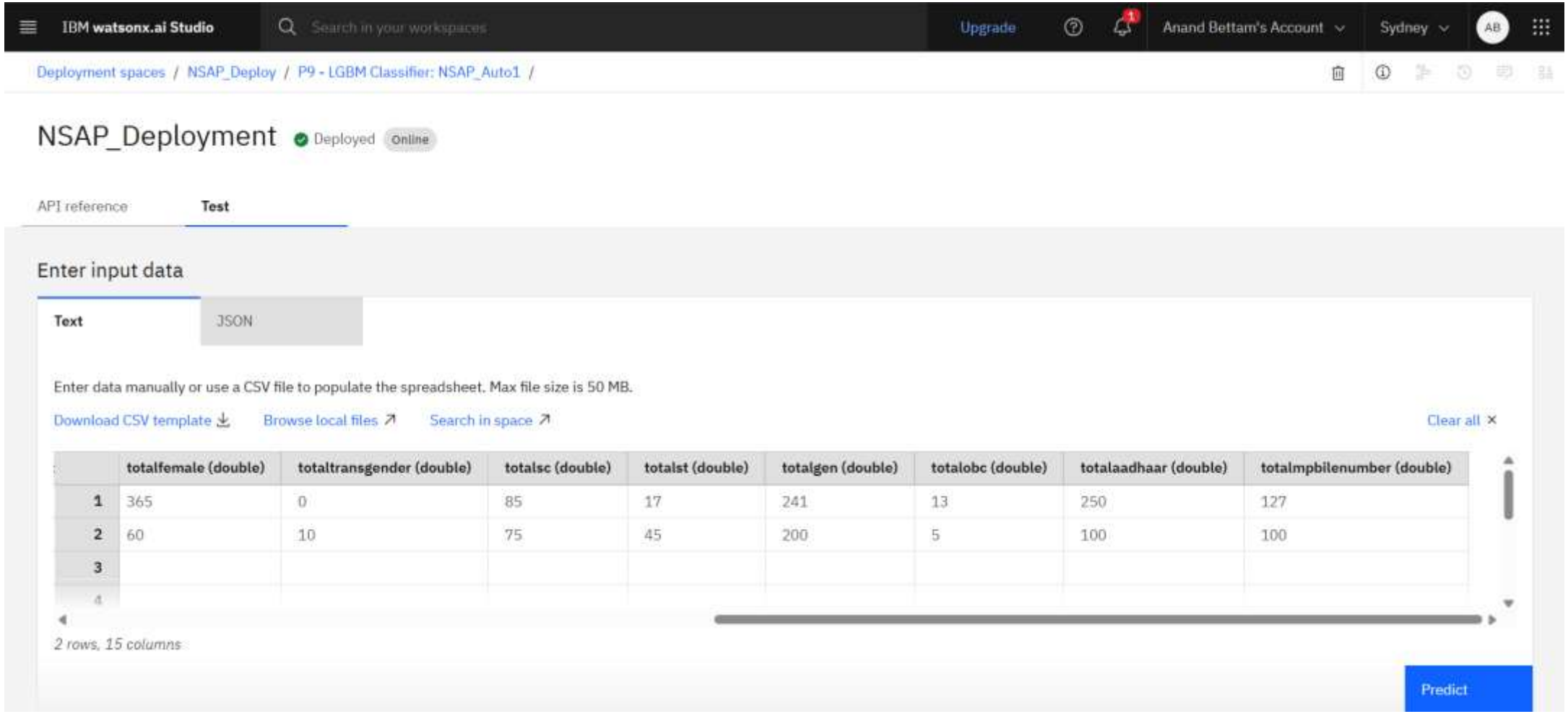
# ALGORITHM & DEPLOYMENT

- AutoAI generated 9 pipelines
- Best selected: **LGBMClassifier**
- Accuracy: ~100%
- Deployment steps:
- Activated Watson Machine Learning runtime
- Created deployment space
- Deployed model for predictions
- Test inputs used via UI (JSON & CSV formats)
- Output generated and downloaded from IBM Cloud

# RESULT

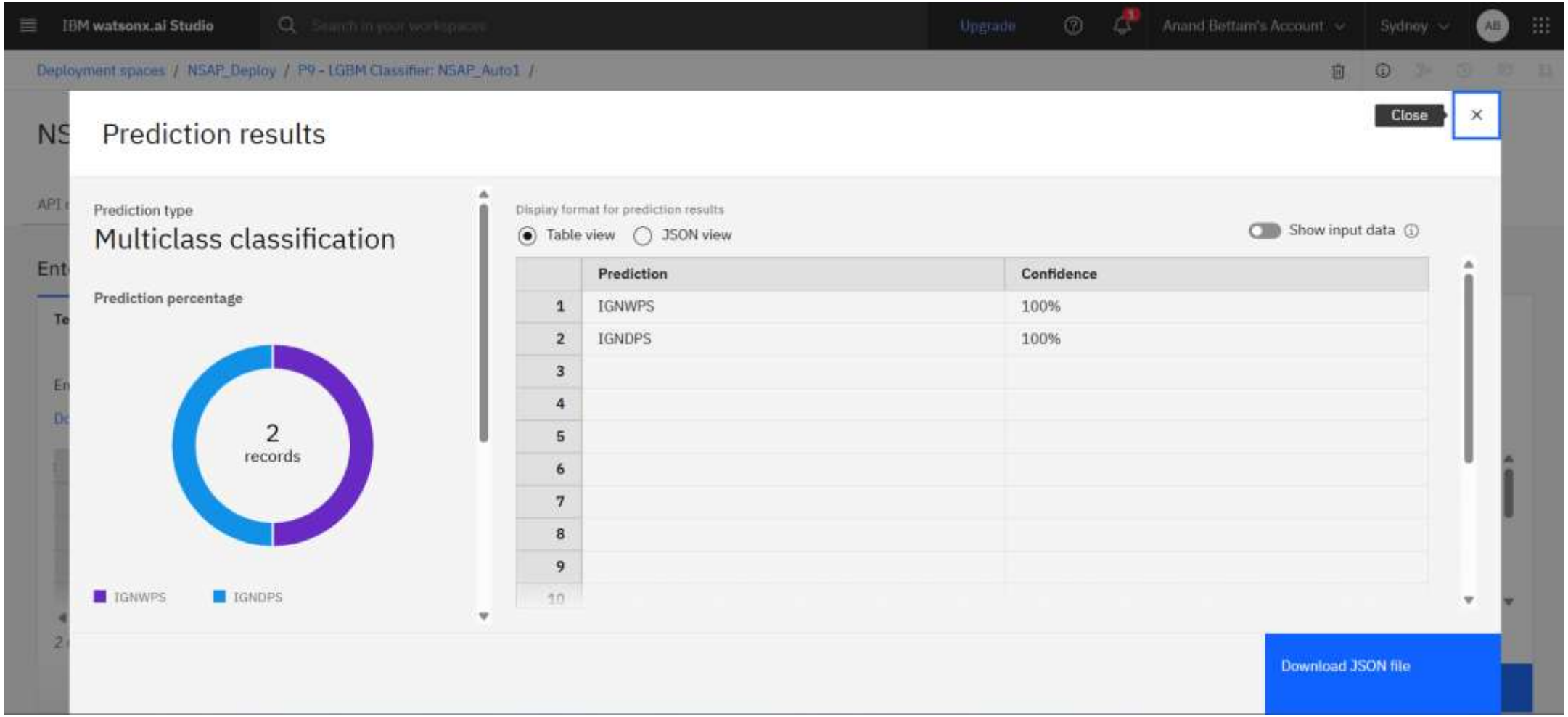


# RESULT




edunet foundation

# RESULT




edunet foundation

# CONCLUSION

- Successfully built ML model to automate scheme prediction
- Fully hosted using free-tier IBM Cloud services
- Model gives fast, accurate predictions
- Reduces manual effort and improves efficiency
- End-to-end flow tested and verified

# FUTURE SCOPE

- Integrate model into government application portals
- Use more detailed datasets for improved prediction
- Include income level, medical condition, etc., as features
- Create web/mobile app frontend
- Deploy as serverless API for scalable use

# REFERENCES

- AIKosh Dataset: https://aikosh.indiaai.gov.in/...nsap_1.html
- IBM Watsonx Studio: https://www.ibm.com/cloud/watsonx
- NSAP Info (Gov Portal): https://nsap.nic.in
- IBM Cloud Lite Free Services
- Live results and screenshots from project execution

# IBM CERTIFICATIONS


edunet foundation

# IBM CERTIFICATIONS

# IBM CERTIFICATIONS

IBM **SkillsBuild** Completion Certificate

This certificate is presented to

Anand Bettam

for the completion of

**Lab: Retrieval Augmented Generation with LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

**Completion date:** 24 Jul 2025 (GMT) **Learning hours:** 20 mins

edunet foundation

# THANK YOU

edunet foundation