

Graduate Admission Support Program (GASP)

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Introduction

The UT ECE graduate admissions committee spends a large amount of time evaluating applicant pools with tremendous amounts of supporting materials like transcripts and personal publications. In addition, the number of applicants to the ECE Department is increasing each year. Graduate Admission Support Program (GASP) is a software system that takes historic department admissions data and produces predictions and assessments for each applicant in a current or future applicant pool, providing a holistic view of how each applicant stacks up to the competition and allowing the admissions committee to make more efficient and informed decisions.

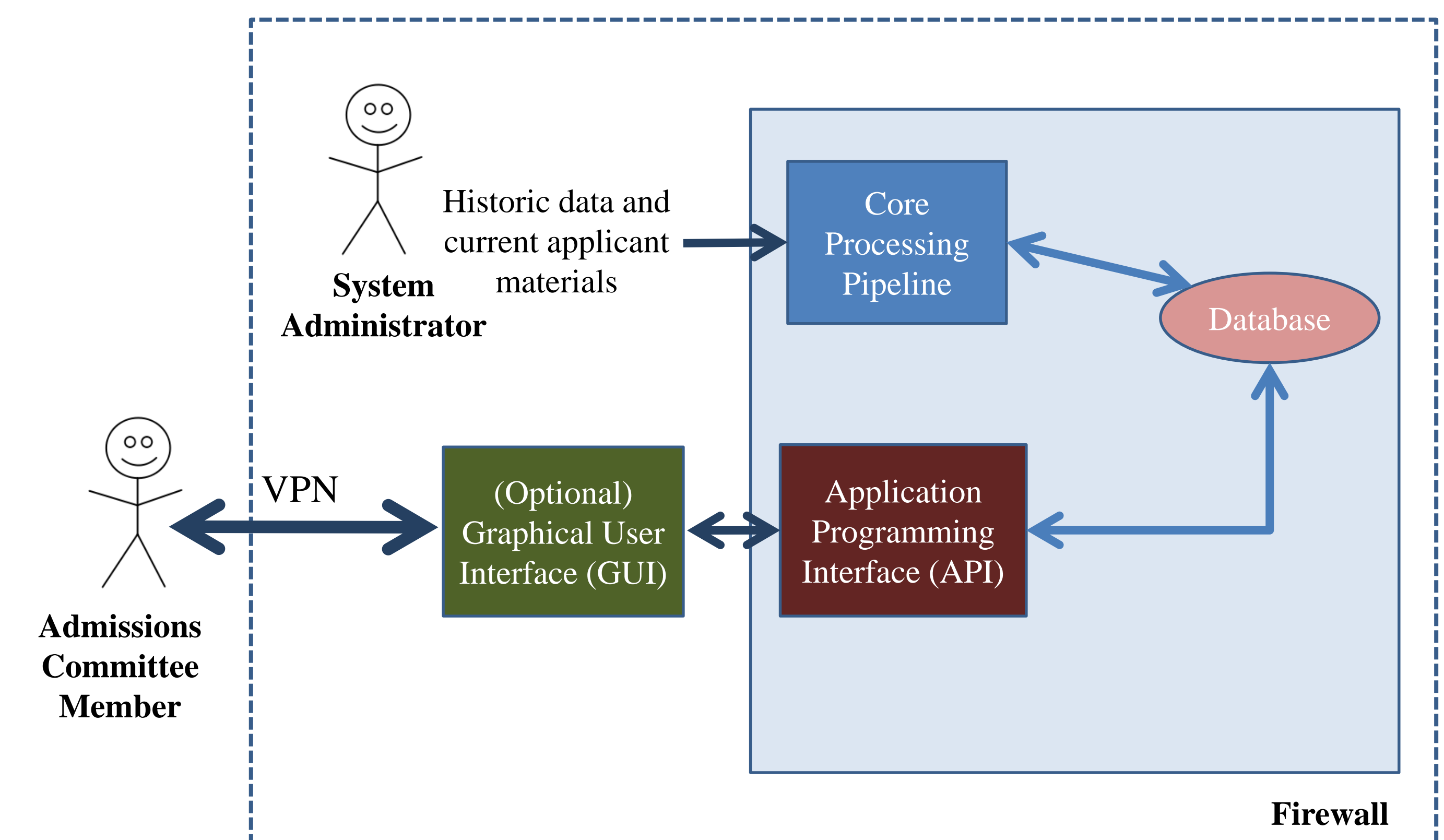
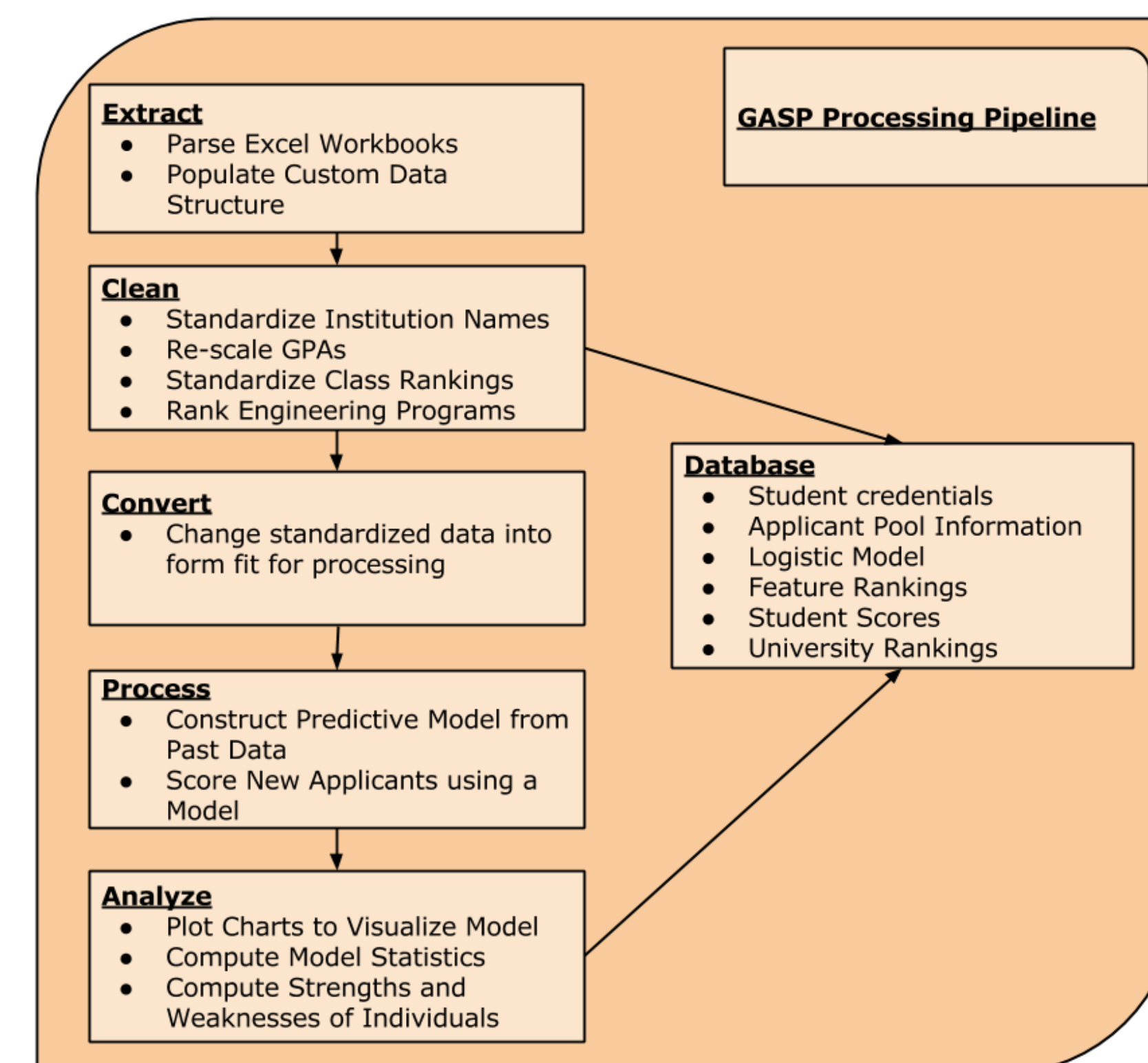
Acknowledgements

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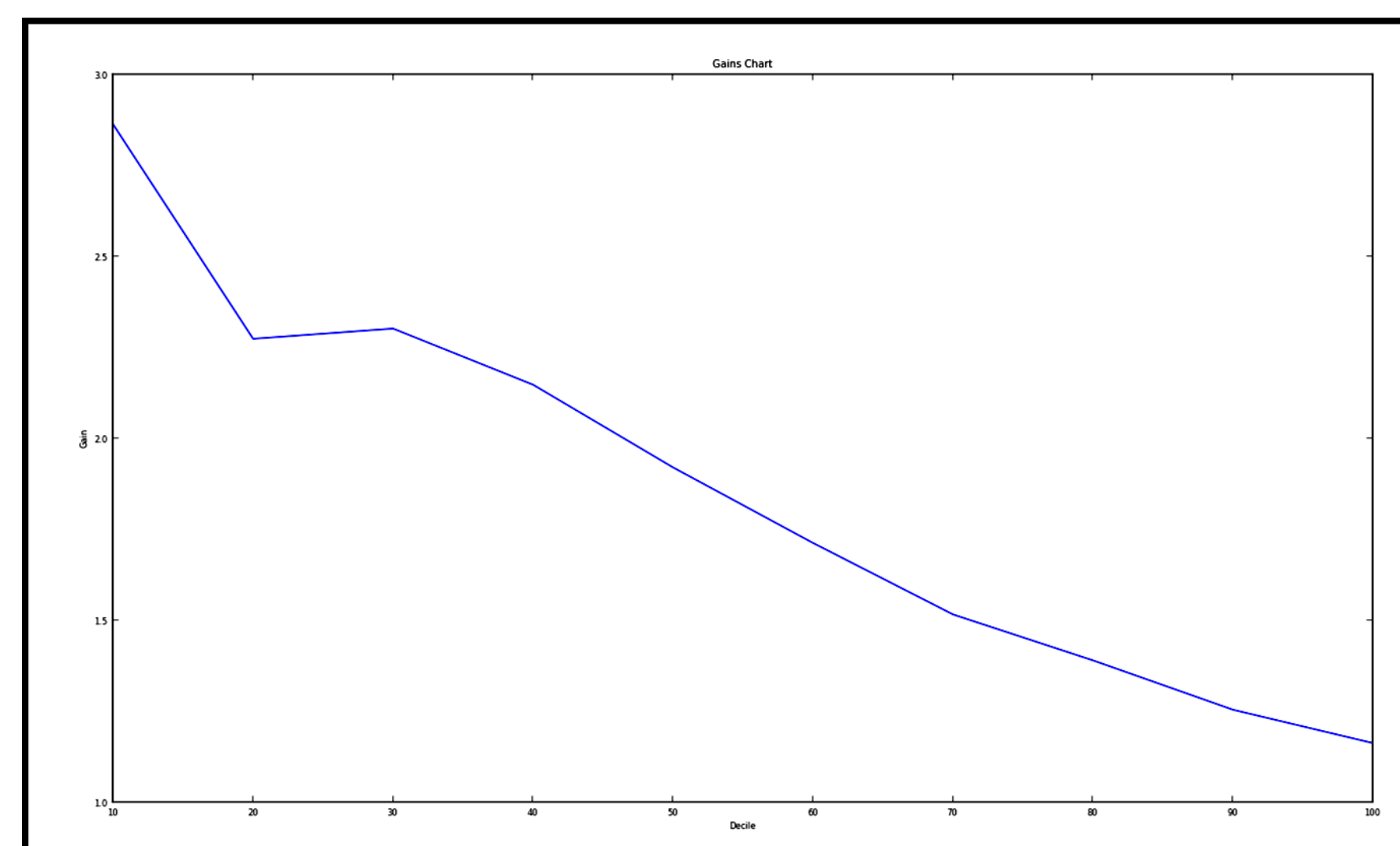
Design

At a high level, GASP consists of three core components: (1) the core processing pipeline; (2) the database; and (3) the Application Programming Interface (API). The core processing pipeline (Figure 1) constitutes the majority of processing in the system and is responsible for taking historic department admissions data and building a predictive model around this data, as well as assessing a new applicant pool by applying an existing predictive model. Student records, both historic and for new applicant pools, the assessments our system builds, and the details of predictive models are stored in the internal database.

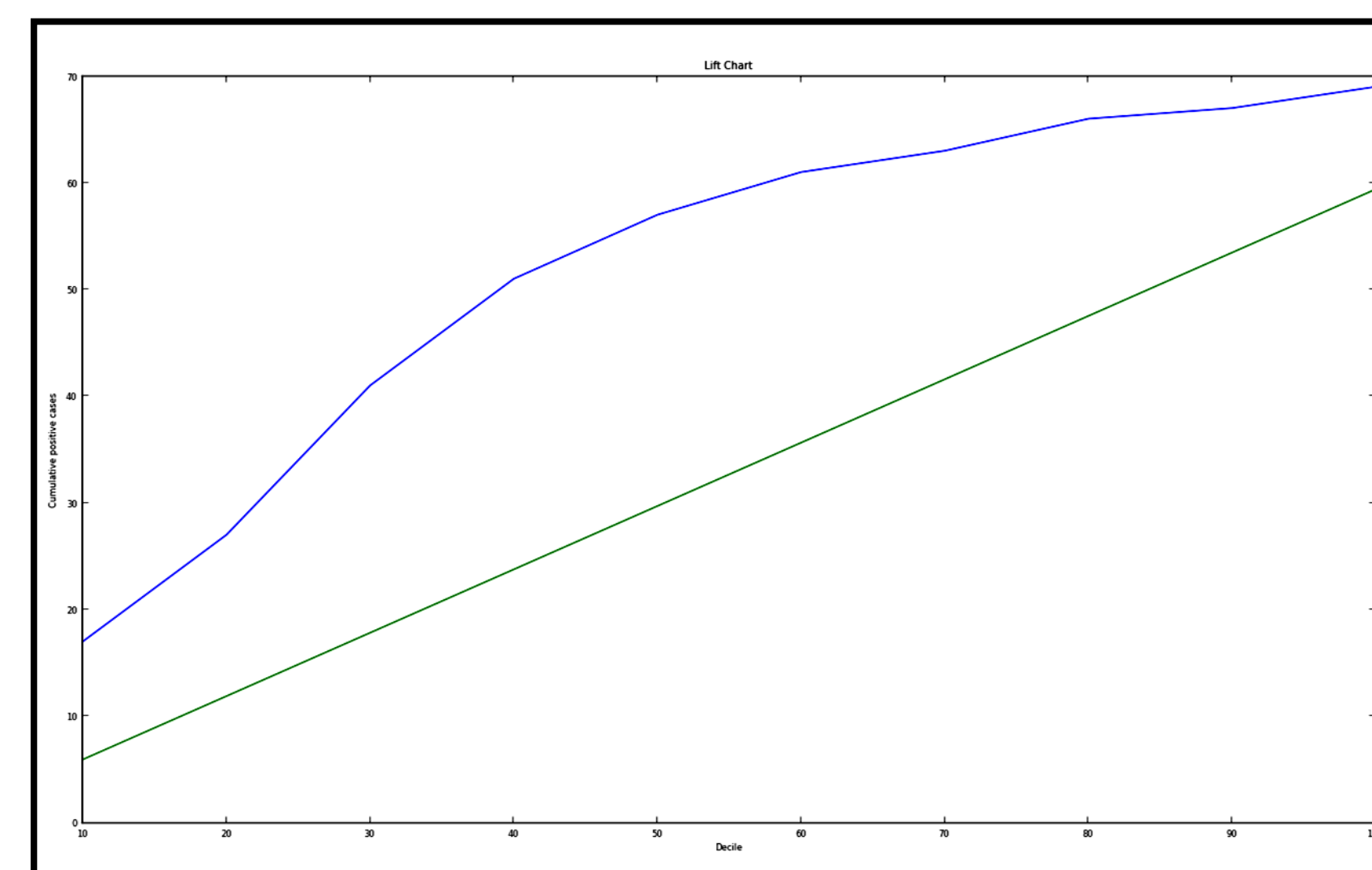
A typical use-case scenario for our system involves three steps: (1) a system administrator will provide historic department data, which the system will use to build a new predictive model; (2) the system administrator will then provide a new applicant pool to assess, and our system will use the predictive model built in step 1 to build assessments for this applicant pool; and (3) admissions committee members will request and receive information about students through a Virtual Private Network (VPN) using our API.



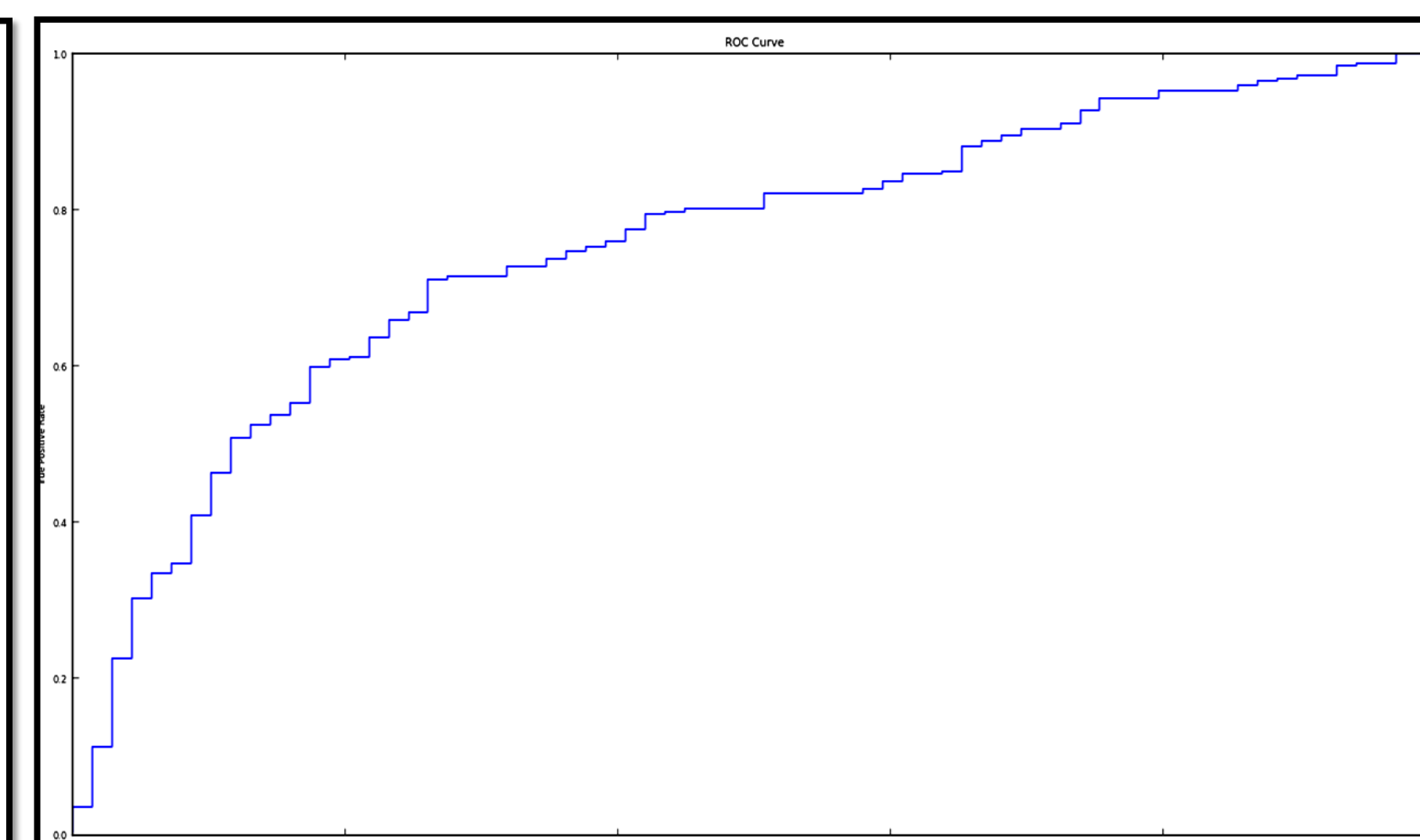
Testing & Evaluation



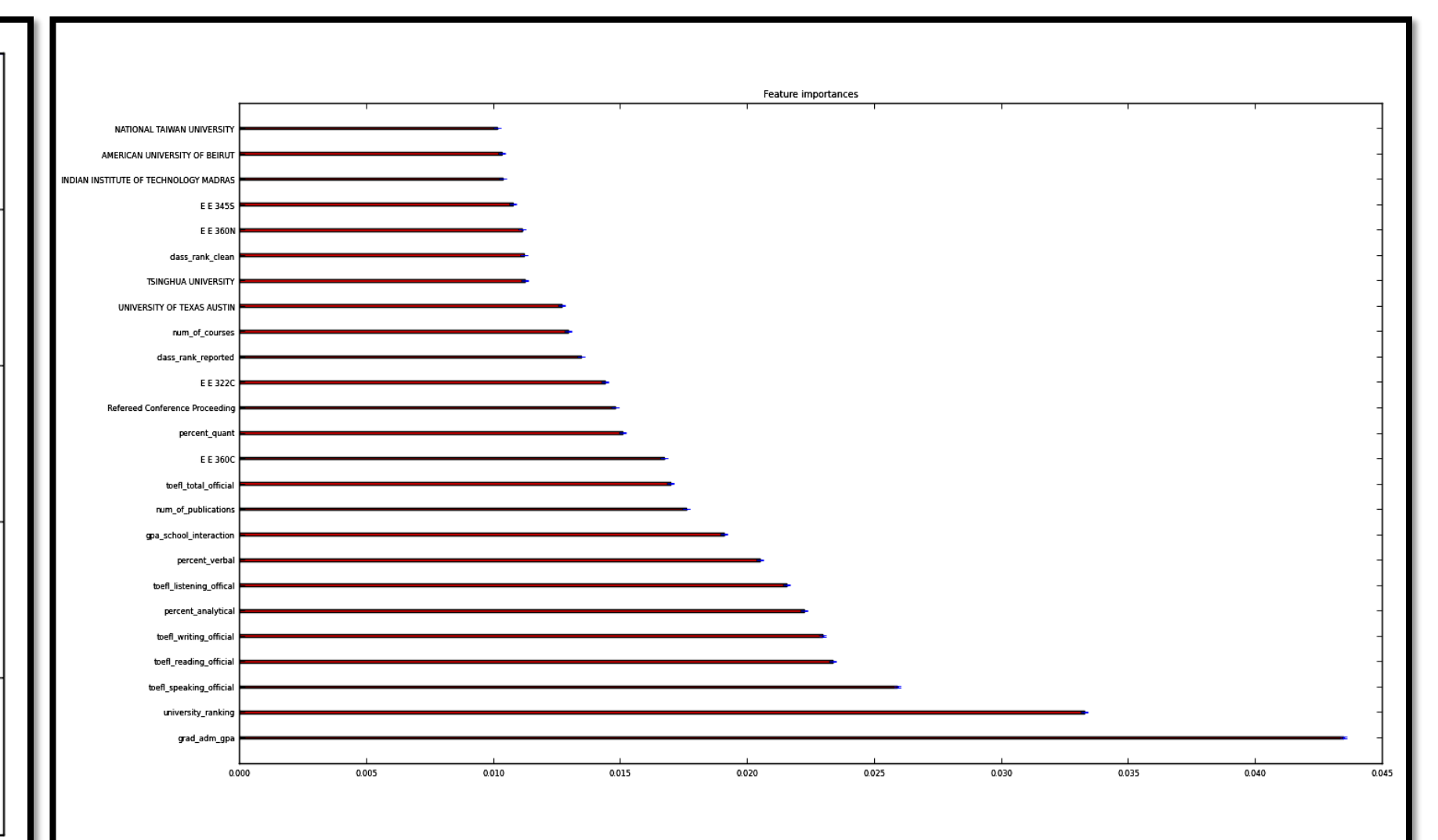
Gains Chart



Lift Chart



ROC Curve



Feature Rankings