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Cracking the Bankably score

Turning Documents into Decisions.



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Where Code Meets Impact: My Story So Far

Avinash Mehta

🎓 University of North Alabama – CS, Data Analytics Minor (May 2025)
💼 Intern @ TMB Tax & Financial
🔁 Returning Aug 2 for Phase 2
🌱 Mentor - Ms. Talibah Bayles
🚀 Looking for full-time roles in data/tech/fintech



quanthub

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Let Me Tell You a Story...

Imagine you're a small business owner — juggling invoices, paying taxes, applying for loans — and at every step, you're told something's missing. But no one tells you what or how to fix it. That's where our story begins.

At TMB, we have Ms. Talibah — a sharp, visionary woman who helps people untangle their financial chaos. She's worked closely with business owners over the years, guiding them through taxes and finances. But she realized: guidance was reactive. What if we could make it proactive?"

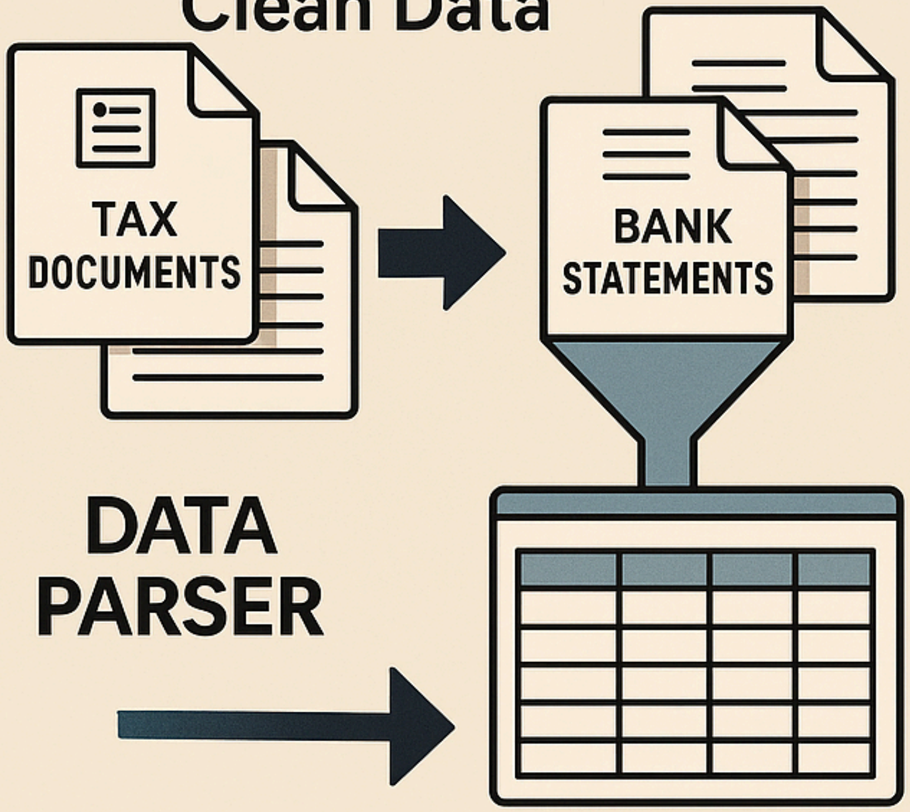
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Let’s Build This Together
– The First Big Hurdle



PROTOTYPE VISION

Parsing PDFs into Clean Data



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Cracking the PDF Parsing Problem

(for TAX forms)

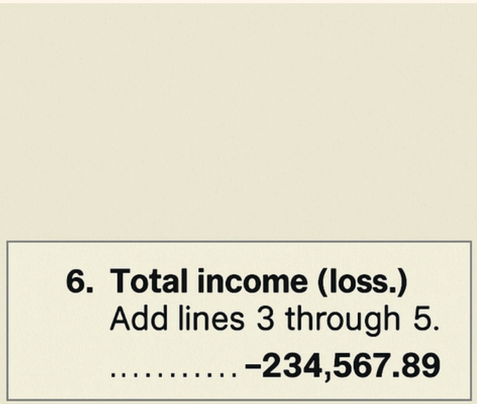
DOCPARSER & DOCUCLIPPER	PDFPLUMBER & PDFTOTEXT	PyMuPDF (Fitz)
• Not ideal for tax documents • Failed to parse needed information	• Fast • Clean table extraction • Distorted data	• Less data distortion • Preserved layout • Accurate text extraction

- Tried tools like Docuclipper & Docparser — didn't work for tax data.
- PDFplumber & pdftotext were fast but messy.
- PyMuPDF (Fitz) handled structure best — became our go-to.

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Extracting the Right Numbers -

Pattern Matching with Regex




```
import re

pattern =
  r("6.Total.*income.*\loss\.
  \Doss\.*Add.*lines.*3.*
  through.*5.*6 &s(≠
  =-?[[\d,+]+.\[d]t)")

match = maatch.group(1)
  if match:total_income:
   pint
  else

  Extracted Total Income:
  -234,567.89
```

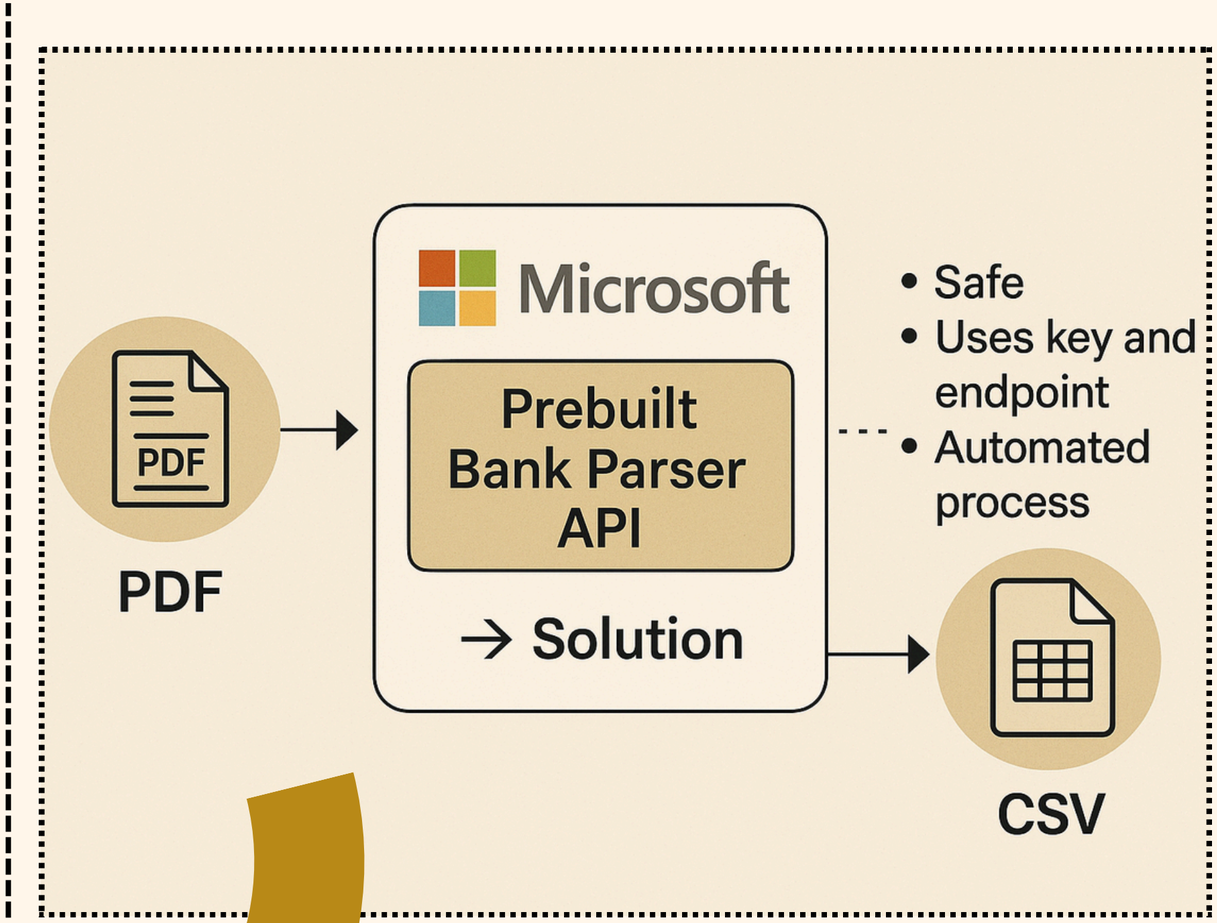
- Identified key fields like Total Income, Gross Sales, etc.
- Tax forms came in 4 formats across years – structure varied slightly.
- Used Python's re.search() and smart patterns to locate values.
- Regex helped capture even messy, misplaced data.
- Stored the captured data into CSV files.

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Cracking the PDF Parsing Problem

Automating Bank Statement Parsing

- **Challenge**: Bank PDFs lacked standard formatting; each institution used a different structure.
- Traditional methods like regex failed — not adaptable to layout variation.
- Building our own parser proved non-scalable and error-prone.
- Tried AI tools — privacy concerns blocked us from uploading client data.



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Putting It All Together

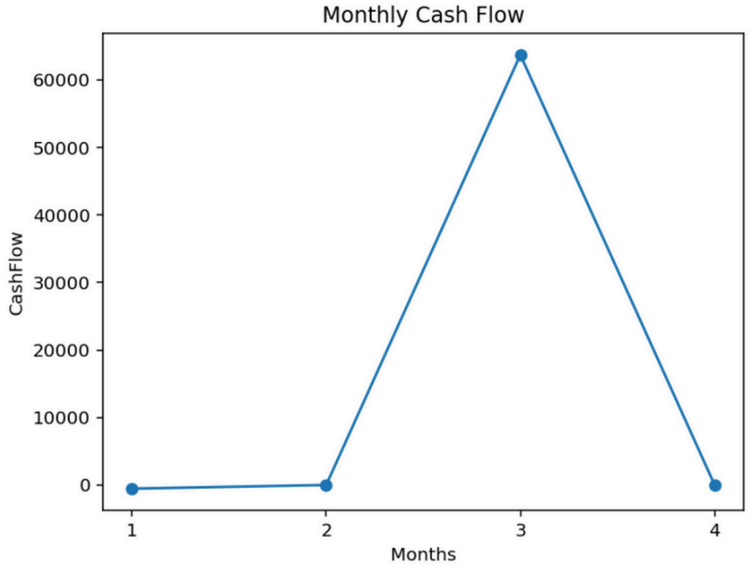
Creating Dashboards

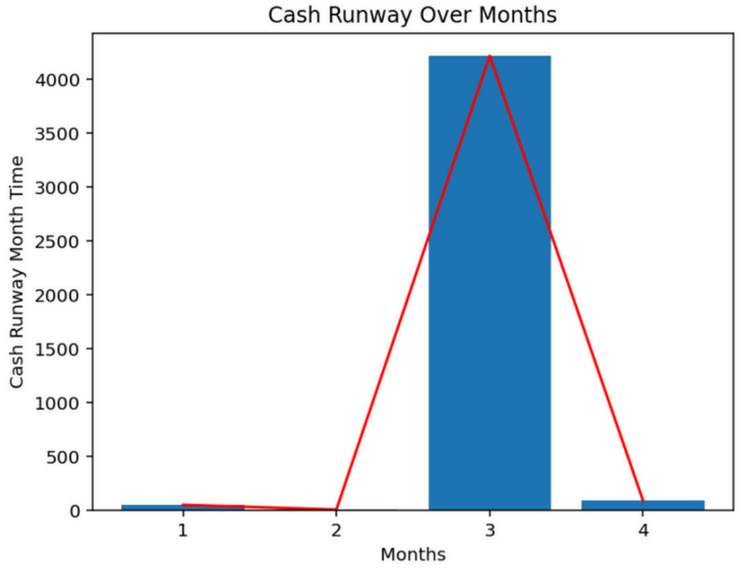
- Once we had clean bank data in CSV format, we transformed it into Pandas DataFrames for analysis.
- Used NumPy for calculations, Matplotlib for visualizations, and Panel to build dashboards
- Our Goal was to score businesses using real financial behavior, not just surface metrics; Talibah had 4-part scoring framework:
  - 🏦 Cash Flow Health (completed)
  - 📋 Financial Compliance Health
  - 🧾 Tax Compliance
  - 📈 Progressive Improvements

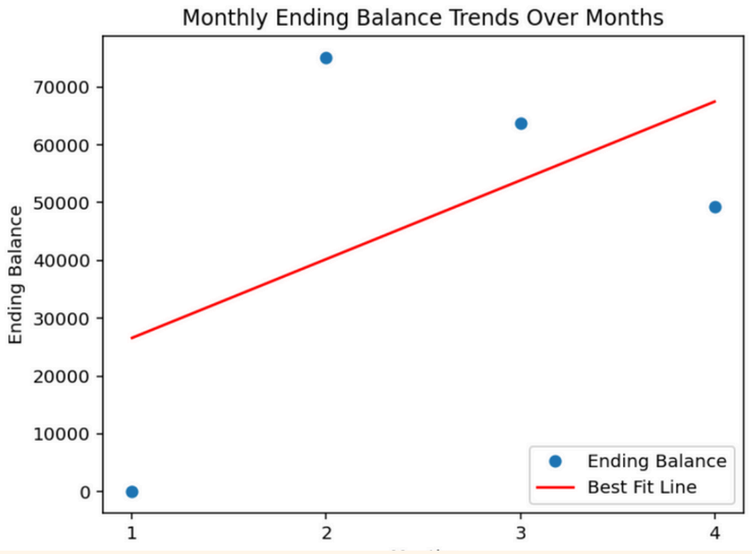


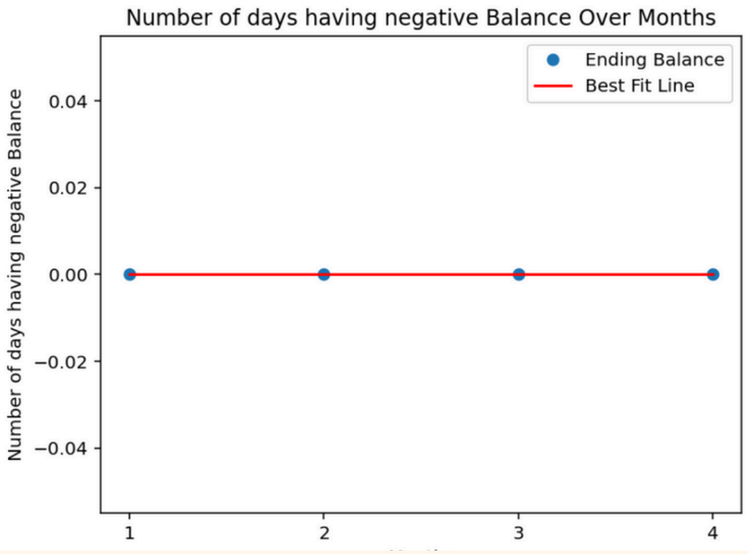
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Final Results









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Lessons Learned

I learned how to work on a team

You have to communicate your ideas clearly

You have to document everything-nicely so that non-technical team can understand it as well

You have to try all possible solutions and there is always a solution, failure is never a solution

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Looking Ahead .....

Short Term Goals

I'm excited to continue with the second phase of my internship at TMB. I've really enjoyed working with the team and learning from them, and I'd love the chance to join the company full-time if an opportunity comes up. I also want to gain more hands-on experience in data science through real-world projects, which will help me grow my skills and better understand how data can be used to solve meaningful problems.

Long Term Goals

Looking ahead, my long-term goal is to pursue a master's degree in data analytics. I want to deepen my knowledge in the field and prepare myself for more advanced roles in the future. This internship helped me discover how much I enjoy working with data, and I'm excited to keep building on that interest with more experience and education. Ultimately, I hope to work in a role where I can use data to make a real impact.



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Thanks so much for listening - I'm happy to take any questions!

