



# Investing in Targeted Programs for Workforce Growth

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# Background

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**Overview:** Workforce Solutions is key in developing and sustaining a skilled workforce across the 13-county Gulf Coast Region.

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**Contributions:**

- Aligns training with industry needs through local business partnerships.
- Focuses on high-growth industries and offers career support services.
- Collaborates with educational and community partners.
- Offers \$6,000 scholarships annually for two years.
- Supports high-skill training using ETPL-approved programs.

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# Regulations

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**Workforce  
Solutions  
Financial  
Aid:**

**Assistance:** Covers tuition, books, fees, supplies, childcare, transportation, and work support.

**Excludes loans.**

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**FAFSA:** Varies by applicant and school's financial aid office.

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# Problem

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Scholarships are being allocated to programs that misalign with job market demands.

Many technical schools and family businesses pose **risks**:

- Limited instructors
- Poor reputation



# Mission

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Determine 10 career fields within industries.

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Identify the top 10 growing industries.

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Assess the most affordable programs within ETPL.

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Ensure job security in a sustained industry demand and a livable wage of \$21.68/hr.



# Selection Criteria

**Challenges:** Government data censorship.

ETPL restrictions.

Limited options in bachelor's degree programs.

**Program Selection:** State-endorsed colleges with rigorous accreditation.

Recognized educational standards.

Most affordable options for each program.



# Methods & Approach

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Step 1: Descriptive Statistical Analysis

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Step 2: Trend Analysis

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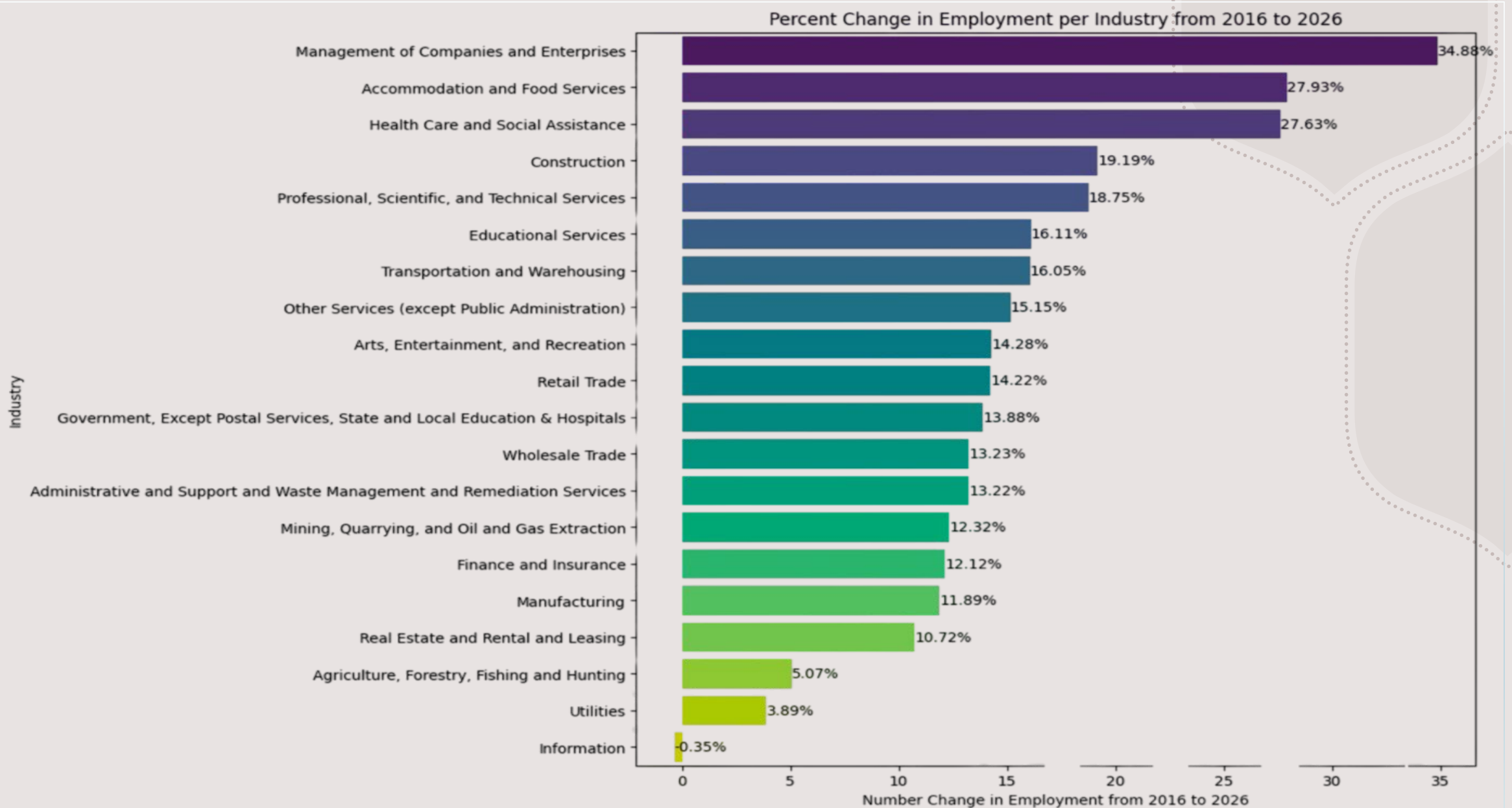
Step 3: Data Visualization

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Step 4: Program Alignment



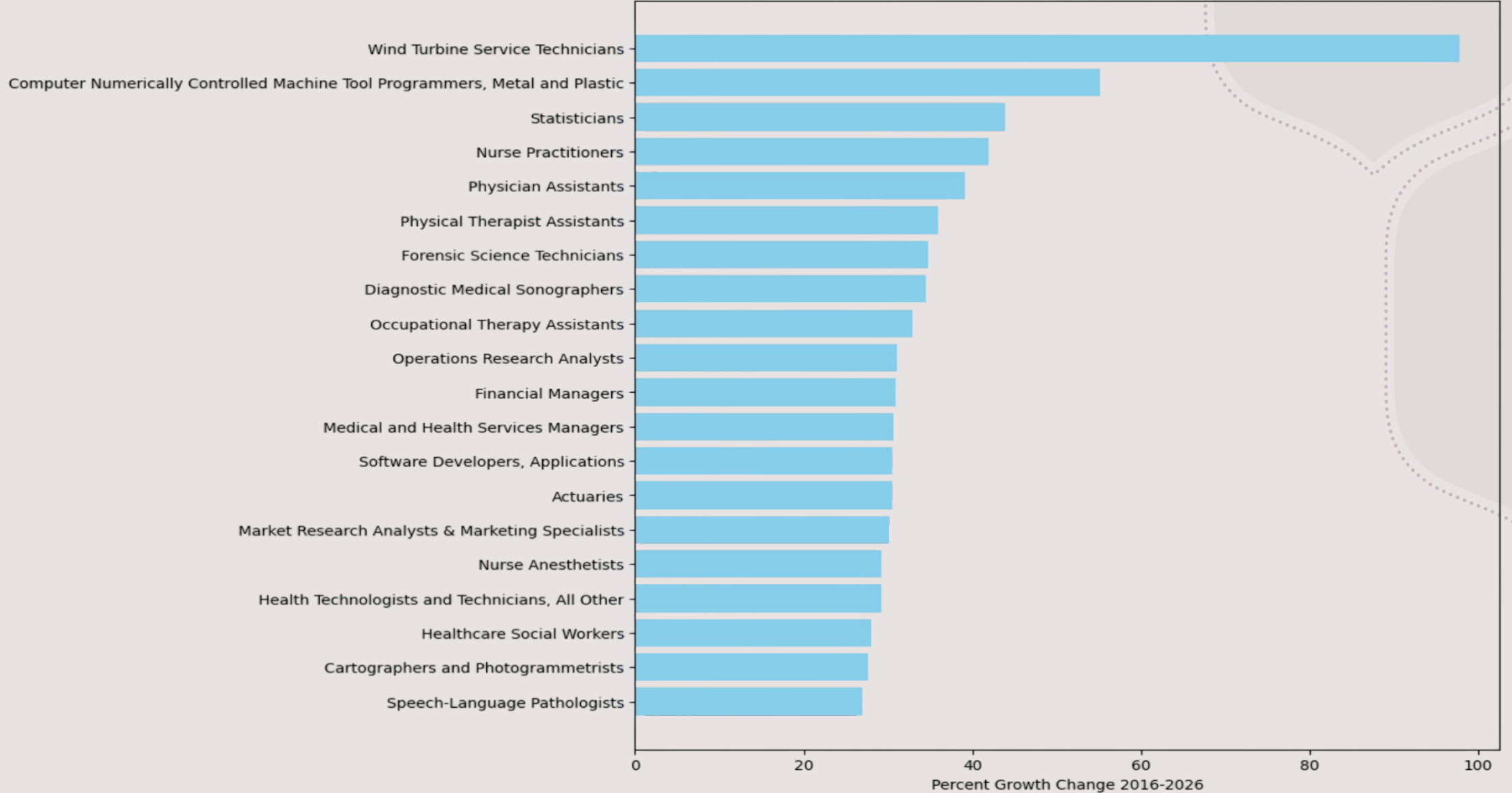
# State Sector Trends





# State Occupation Trends

Top 20 Occupations by Percent Growth Change (No Doctoral or Professional Degree Required)



# Financial Metrics

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We have applied two key financial metrics to assess their potential benefits:

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1. Net Present Value (NPV)

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2. Internal Rate of Return (IRR)



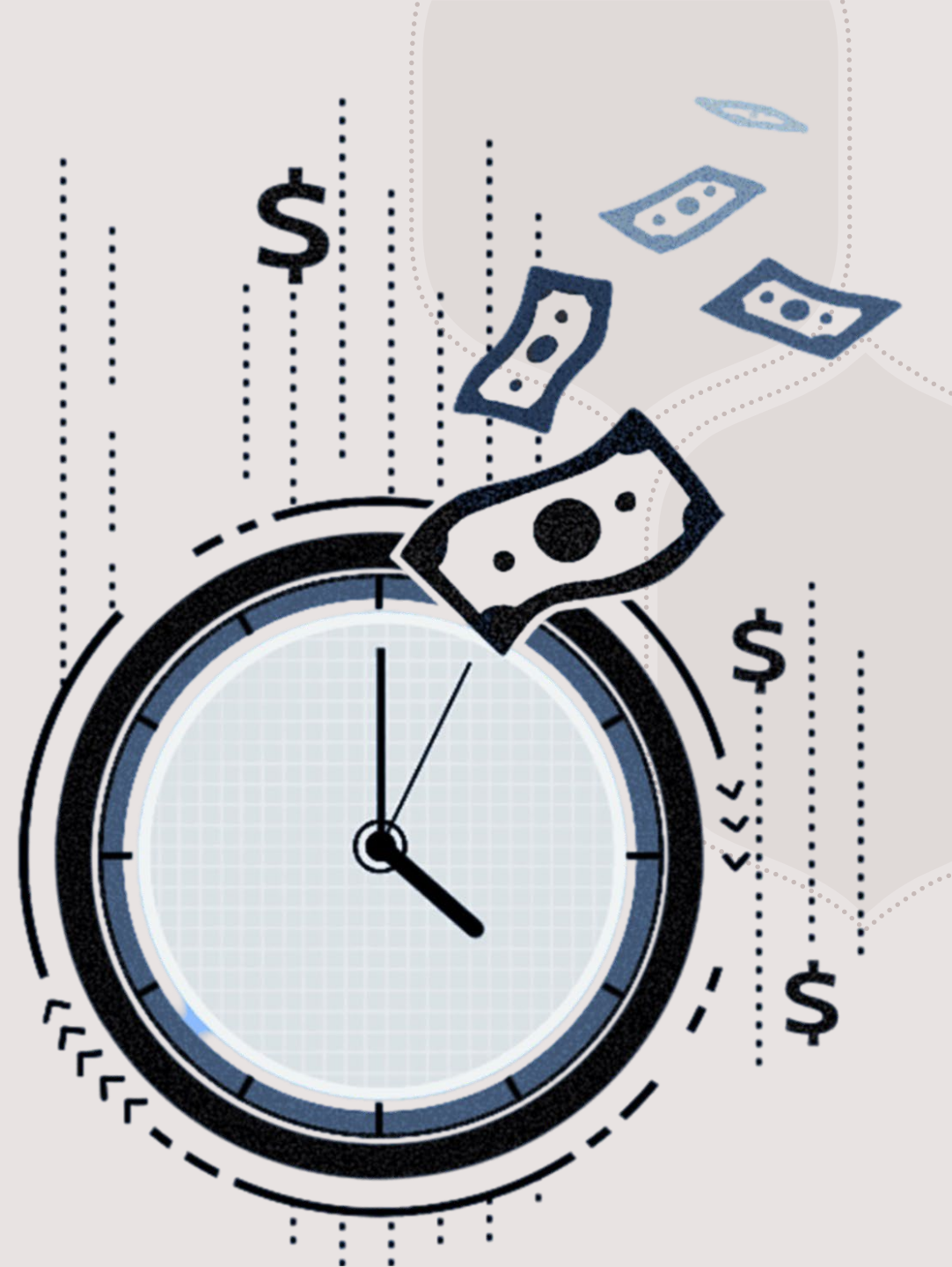
# Net Present Value (NPV)

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We created an NPV best suited for our problem.

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**Model 1.2** captures more economic forces and give a more accurate depiction of (NPV).



# Net Present Value (NPV) 1.2

$$NPV = \left( \sum_{t=t_e+1}^T \frac{S_2 \cdot (1 + 0.03 \cdot t) \cdot (1 + f_2)}{(1 + r)^t} \right) - \left( \sum_{t=1}^T \frac{S_1 \cdot (1 + 0.03 \cdot t) \cdot (1 + f_1)}{(1 + r)^t} \right) - \left( \sum_{t=1}^{t_e} \frac{CE}{(1 + r)^t} \right)$$

$(S_1)$  is the annual salary of the individual before education, or had they not sought education

$(r)$  is the estimated discount rate (3% or 0.03)

$(S_2)$  is the annual salary of the individual after education.

$(T)$  is the time in years until the individual turns 45

$(f_1)$  is the fringe benefit rate of the individual before education, or no education (0-10% or 0-0.1%)

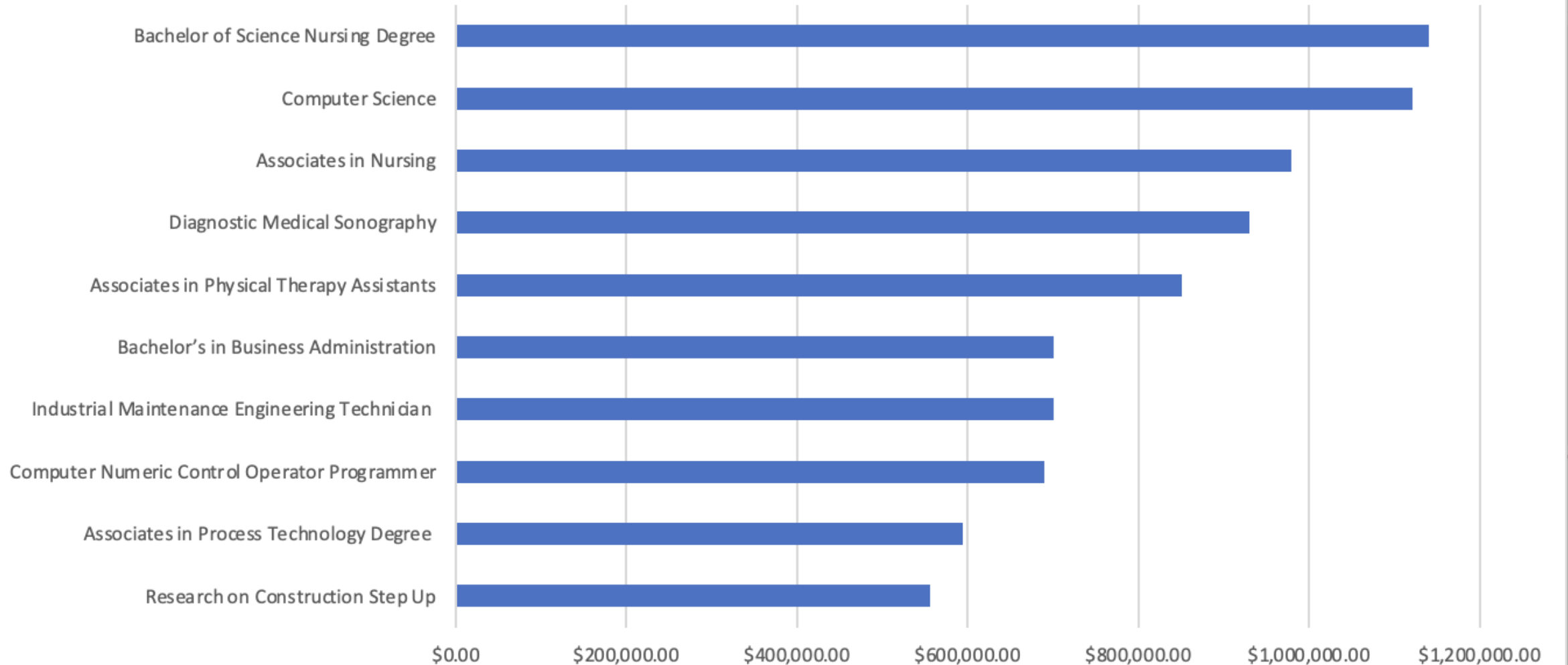
$(t_e)$  is the time in years the individual spent investing in education

$(f_2)$  is the fringe benefit rate of the individual after education (20% or 0.20)

$(CE)$  is the total cost of education, tuition, supplies, transportation, living costs, and personal expenses during the education period

# NPV Findings

## NPV 1.2



# Health Care Sectors

## Healthcare Program Growth & Salaries:

Associates in Physical Therapy Assistants - Wharton JC

Growth: 26% National, 45% Texas (2020-2032)

•Entry-Level Salary: \$50K-\$60K/yr

Associates in Diagnostic Medical Sonography - San Jac & Lone Star College-CyFair

Growth: 17% National, 38% Texas (2021-2031)

•Entry-Level Salary: \$65K/yr

B.S. Nursing (BSN) - Prairie View A&M

•Growth: 17% National, 38% Texas (2020-2030)

•Entry-Level Salary: \$65K/yr

Associates in Nursing - San Jacinto College

•Healthcare Support Programs - Gulf Coast Region

•Entry-Level Salary: \$55K/yr

Figure 3: Comparison of Projected United States Age Structure, 2020-2050

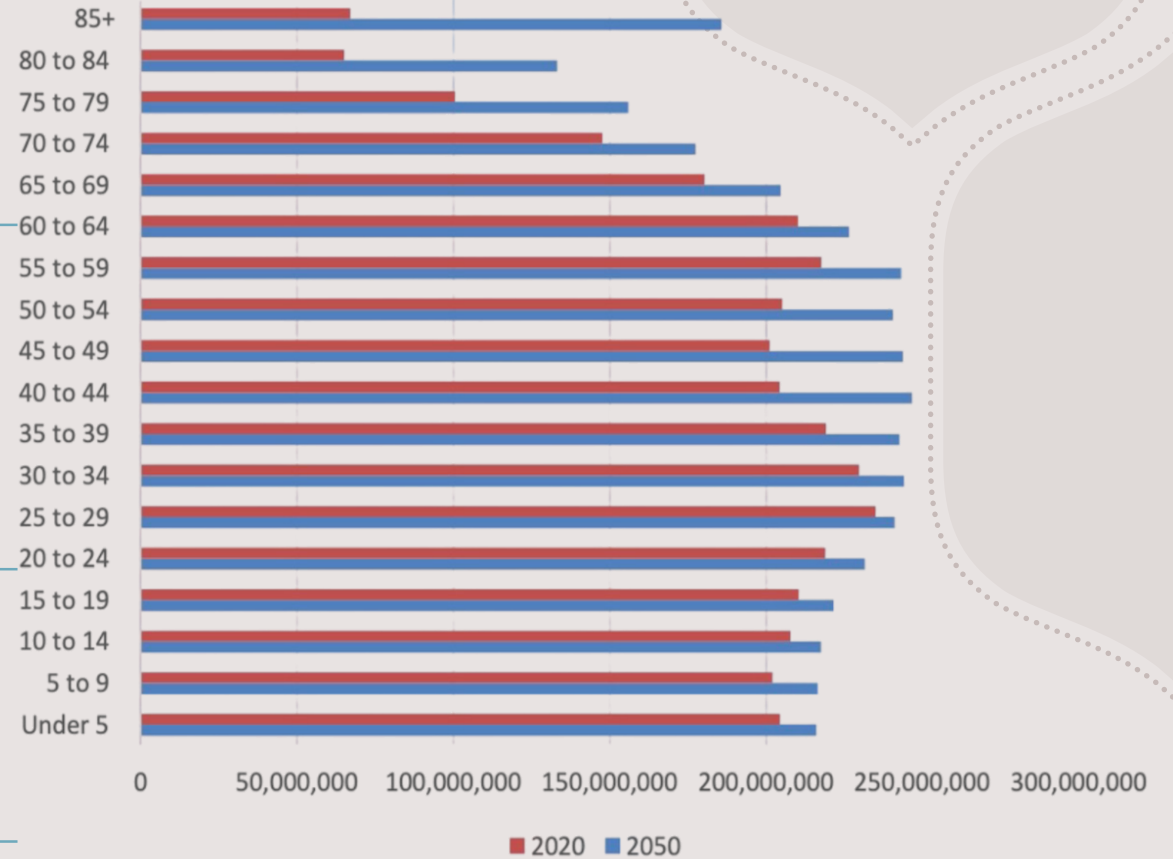


Figure notes: Projected Population Size and Births, Deaths, and Migration: Main Projections Series for the United States, 2017-2060. U.S. Census Bureau, Population Division: Washington, D.C.

# Computer & Mathematical Sectors

## Industry Growth & Education Insights:

National Growth Rate: 13.7%

State Growth Rate: 26.7%

Computer Science, B.S. – Texas A&M University-San Antonio

Total Cost: \$150,296 (4 years)

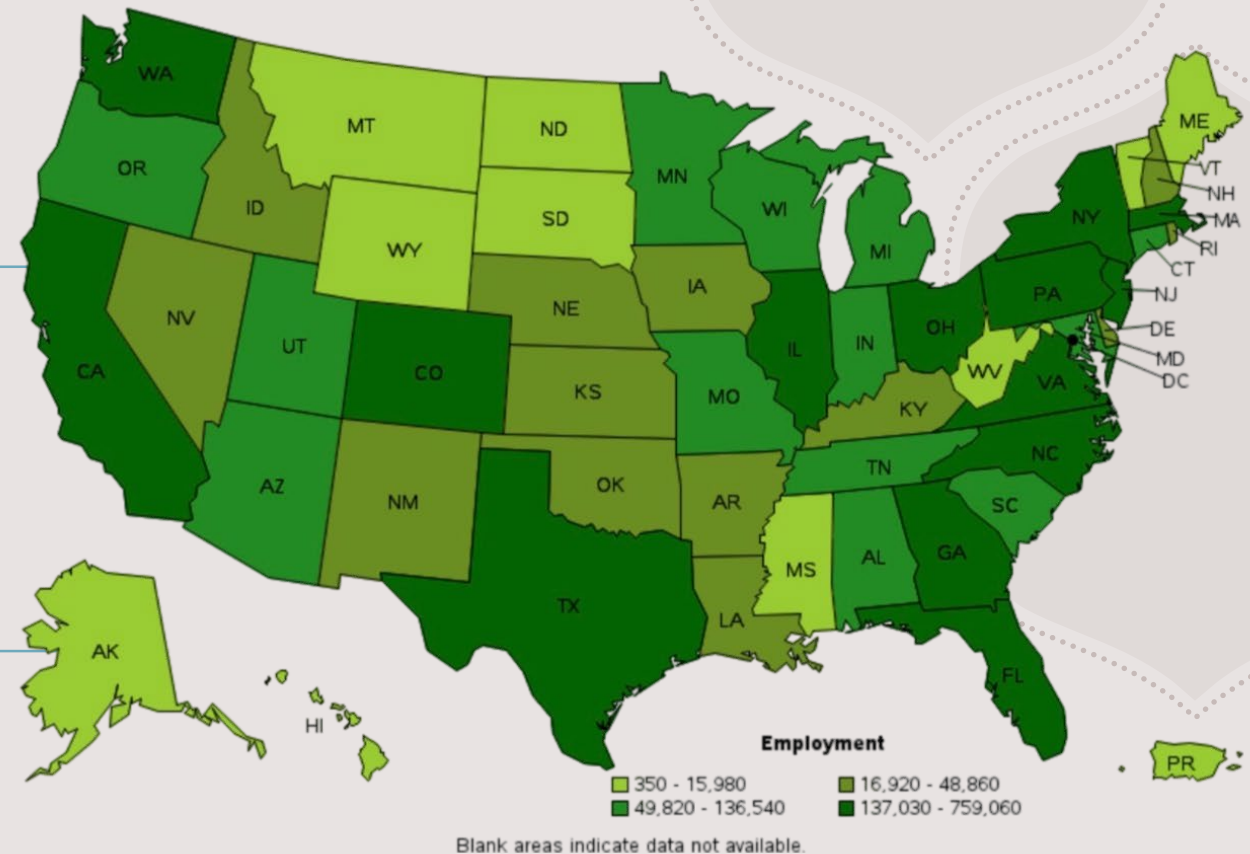
Entry Salary: \$69,000 - \$80,000

CNC Operator/Programmer Level I – LSC-Montgomery

Total Cost: \$6,660 (2 years)

Entry Salary: \$44,000 - \$50,000

Employment of computer and mathematical occupations, by state, May 2023



# Construction Sectors

## Industry Insights:

National Growth Rate: 4.82%

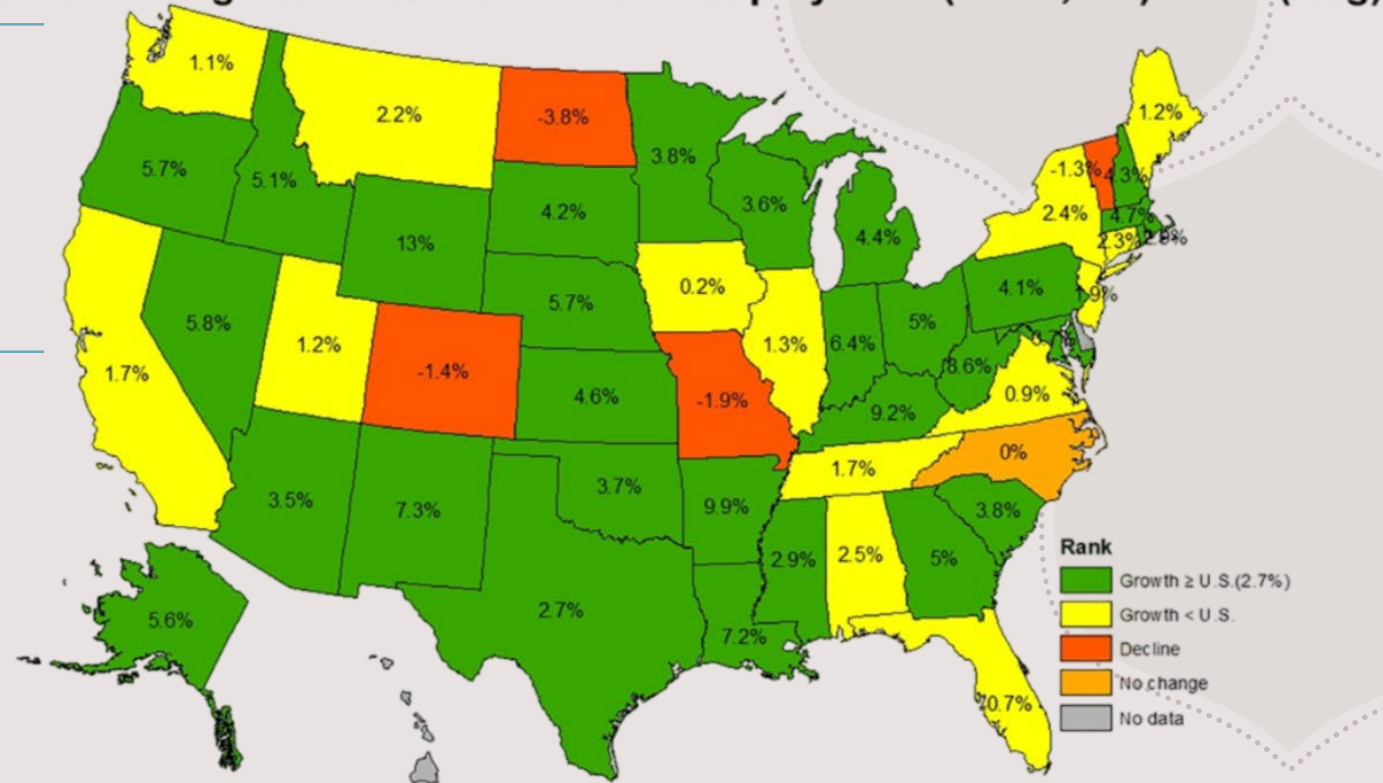
Construction Step-Up Supervisor

Program – San Jacinto College

District

- Total Cost: \$27,221 (2 years)
- Entry-level salary: \$50,000/year

Percent Change in Total Construction Employment (Ths.#, SA) - YoY (Aug)



Construction sector jobs in the United States increased by 212,000 (2.7%) on a year-over-year basis. Texas added 21,100 jobs.



# Management Sectors

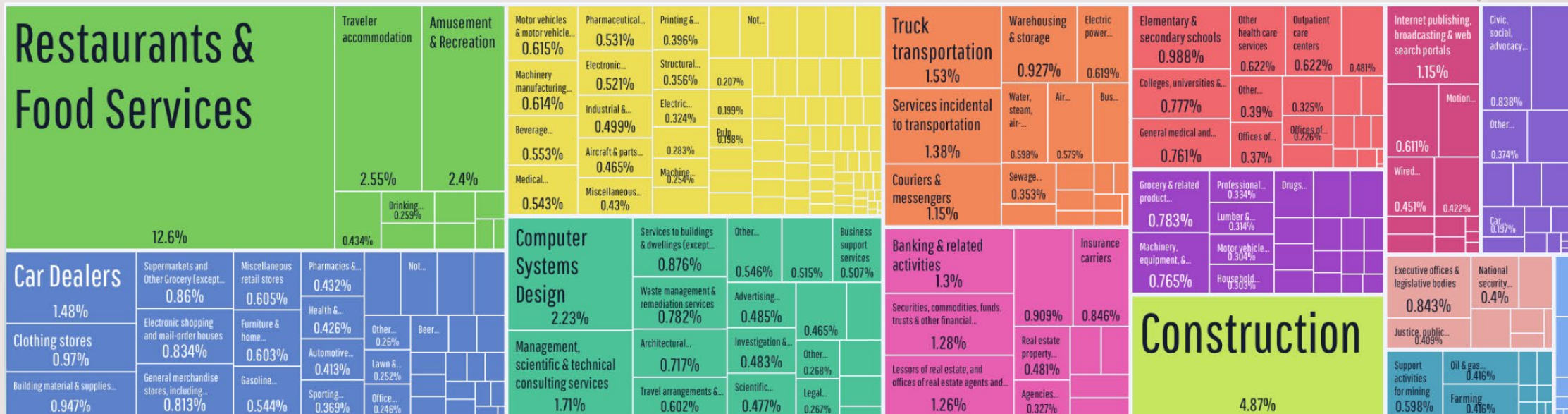
## Industry Insights:

National Growth Rate: 5.52%

## Management, Bachelor of Business Administration - Texas A&M University-San Antonio

Total Cost: \$101,592 (4 years)

Entry Salary Range: \$46,340-\$65,180



# Production Sectors

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## Industry Insights:

National Growth Rate: 19%

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Industrial Maintenance Engineering Technician - Houston CC

State Growth Rate: 20%; Total Cost: \$7,000 (2 years)

Entry Salary Range: \$45,082

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Process Technology Degree (AAS) - Alvin CC

State Growth Rate: 13%; Total Cost: \$10,000 (2 years)

Entry Salary Range: \$49,820



# Recommendations

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Advocate to the state for the inclusion of more universities/colleges and bachelor's degree programs.

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Encourage funding from state entities such as the Texas Workforce Commission.

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Use of economic models such as NPV and IRR to summarize the program.



# Summary

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## Financial Metrics

Use NPV and IRR to evaluate financial viability and profitability of programs.

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## Educational Options

Highlight various educational paths.

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## Industry Growth Alignment

Ensure program selection aligns with growing industries.

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## Selection Challenges

Limited data access and a small ETPL list.

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