

Placement Opportunities for Human Factors Engineering and Ergonomics Professionals in Industry and Government/Military Positions

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During the period from January 2005 through December 2005, the Placement Service of Human Factors and Ergonomics Society distributed announcements describing 123 new positions available for human factors and ergonomics professionals. This paper describes the 111 placement opportunities for those in Industry and the Government/Military. The attributes of the position descriptions examined include: employment sector, degree requirements, work experience, expertise, salary, and geographic location.

The employment sector type seeking the most employees was Consumer Products at 28%. The degree required was usually a Masters (42 %) and the geographic area with the most jobs was the Northeast (N=32). The area of expertise most frequently requested by employers was Experimental Research (N=58).

INTRODUCTION

During the period from January 2005 through December 2005, the Placement Service of the Human Factors and Ergonomics Society (HFES) posted job listings describing 123 new positions available for human factors and ergonomics (HF/E) professionals. Employers completed a "Job Listing" form, provided by the HFES Placement Service, on which they provided information on a variety of factors including: employment sector, degree requirements, required work experience, salary, geographic location, and area of expertise. Twelve jobs that were of academic origin were not included in the following analysis. The analysis of the 111 remaining positions is the basis of this article. Please note that only data obtained for new positions in 2005 are analyzed in this article. Thus, positions listed prior to January 2005, which were still listed as positions available in the period following January 1, 2005, were not included. Additionally, this analysis is not a complete listing of all the positions available to HF/E professionals. Related positions are also listed with other placement services, such as HFCareers.com.

ANALYSIS OF PLACEMENTS LISTED BY THE HFES PLACEMENT SERVICE

Placement Opportunities by Sectors

The 111 positions discussed in this paper were categorized into two employment sectors: Industry (90%), and Government/Military (10%). The Industry sector increased 2% from 2004 (Anderson, Bakowski, & Moroney, 2005), while Government/Military decreased (2%). The number of positions available in industry was 81 in the 2004 survey (Anderson, Bakowski, & Moroney, 2005), 96 in the 2002 survey (Voorheis, Snead, & Moroney, 2003), and 100 in this analysis. The

positions were classified by the authors according to employment sector, which was specified in the job description portion of the position announcement. Some classifications were made easily (Lockheed within Aviation, John Deere within Agriculture) while others (Foster Miller – as an example) were more difficult. Positions requested in specific areas (e.g. Biomedical) were classified by that organization's type of industry.

Consumer products accounted for 28% of jobs in this survey compared to 16% in 2004 and 7% in 2002. The Government/Military sector accounted for 10%, compared to 15% in 2004 (Anderson, Bakowski, & Moroney, 2005) and 13% in 2003 (Voorheis, Snead, & Moroney, 2003). The top ten employment sectors are listed in Figure 1.

Minimum Degree and Minimum Years Experience

The degree most frequently required in job announcements was a Masters (45%), followed by Bachelors (34%), Doctoral (17%) and Some College (4%). A Masters degree was specified for 44% of the positions in the 2004 survey (denoting a 1% increase from 2004 to 2005). The median years of experience in Industry for all types of degrees range from 0 to 10 in Industry and from 0 to 7 for Government/Military. Table 1 provides a more detailed description, divided into source by type of degree and years of experience required by employment sector: Industry and Government/Military.

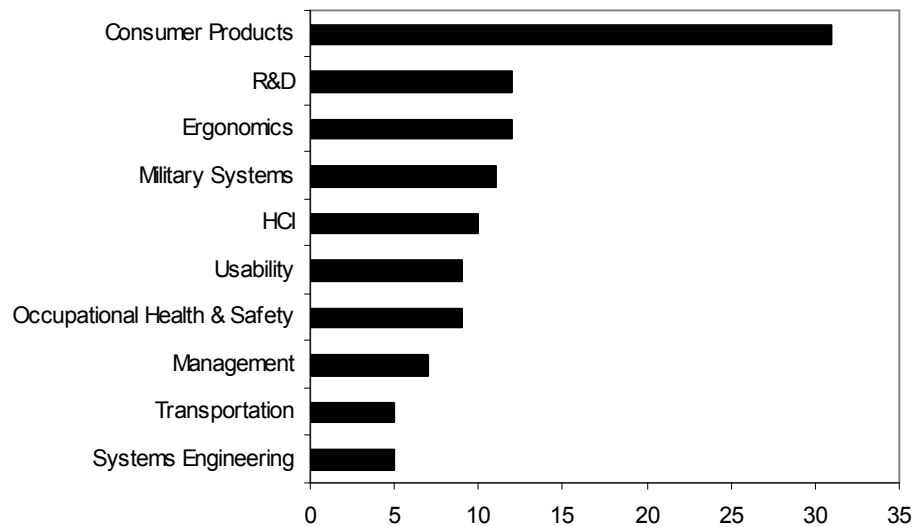


Figure 1: Number of employment sector openings by type of industry as reported by HFES (N=111)

Placement Opportunities	Degree Required	Years of Experience Desired	
		Median	Range
Industry (N = 97)	Some College (N=3)	2.0	0 to 4
	Bachelor (N = 34)	5.0	0 to 10
	Masters (N = 44)	5.0	0 to 10
	Doctorate (N = 16)	5.0	0 to 10
Government/Military (N = 8)	Some College (N=1)	0	0
	Bachelor (N = 2)	3.5	0 to 7
	Masters (N = 3)	1.5	0 to 3
	Doctorate (N = 2)	3.5	0 to 7

Table 1: Years of Experience and Degree Requirement for Each Job Opportunity. (No degree information was provided for 6 positions)

(N=44), and human computer interaction (N=43) were the top five most requested areas of expertise. Experimental Research comprised a field of expertise where employers wanted individuals with a wide variety of research experience to lead/advice teams on a variety of projects. In both 2004 and 2002 the most requested area of expertise was HCI (N=50 and N=23, respectively).

Authors assigned each job expertise specification from several categories based on the names of the HFES technical groups and their related subcategories within the technical group. The authors' selection reflects the technical group for the position. For example, HCI was considered a major category with interface design as a subcategory. The positions are categorized by area of responsibility. Readers should note that the authors were limited to selecting one of the categories reflecting the titles of HFES technical groups, thus an individual could be desired with expertise in safety while employed in an aerospace/aviation industry.

Job Expertise Specification

The data used for 'area of expertise' were obtained from a job description of required skills. Employers were allowed to specify as many areas of expertise as necessary. These areas of expertise were not prioritized; therefore it was not possible to assess the primary needs of the employer. Figure 2 denotes the ten leading categories of expertise requirements.

The areas of expertise indicate the variety of skills required of human factors professionals, and it was difficult to account for all potential skill areas, within the 19 classifications that were used. The areas of expertise included, but were not limited to, individual areas as diverse as biomedical, automotive, and occupational health and safety. Experimental research (N=58), usability (N=53), consumer product design (N=46), ergonomics

Salary

Eighty-seven percent of the employers did not specify a salary range, therefore caution should be used in interpreting these data. Within the 14 positions for which salary was specified, the salaries ranged from a low of \$30,000 to a high of \$162,000 (compared to a range of \$30,000 to \$85,210 in 2004 (Anderson et al, 2005); \$30,000 to \$121,000 in 2002 (Voorheis et al, 2003); \$33,000 to \$95,000 in 2000 (Schoeling, Goliber, & Moroney, 2001); \$33,000 to \$100,000 in 1998 (Cummings-Hill, Means, Harrison, & Moroney, 1999)). The median salary minimum was \$73,000 and the median salary max was \$100,000. The fluctuation of the salary range reflects the changes in the overall job market from year to year (see Figure 3).

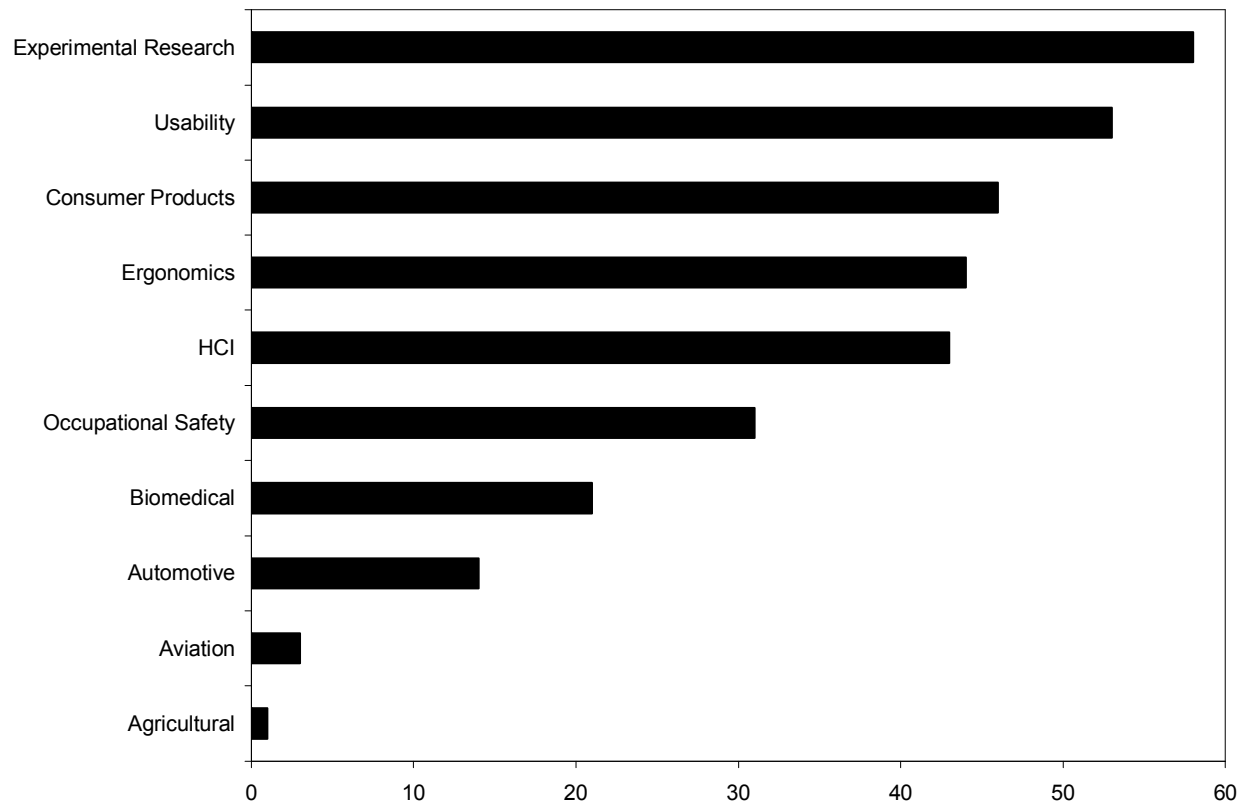


Figure 2: Areas of expertise requested for position in Industry and Government/Military as reported by HFES (N=111)
Note: More than one area of expertise was usually specified for each position.

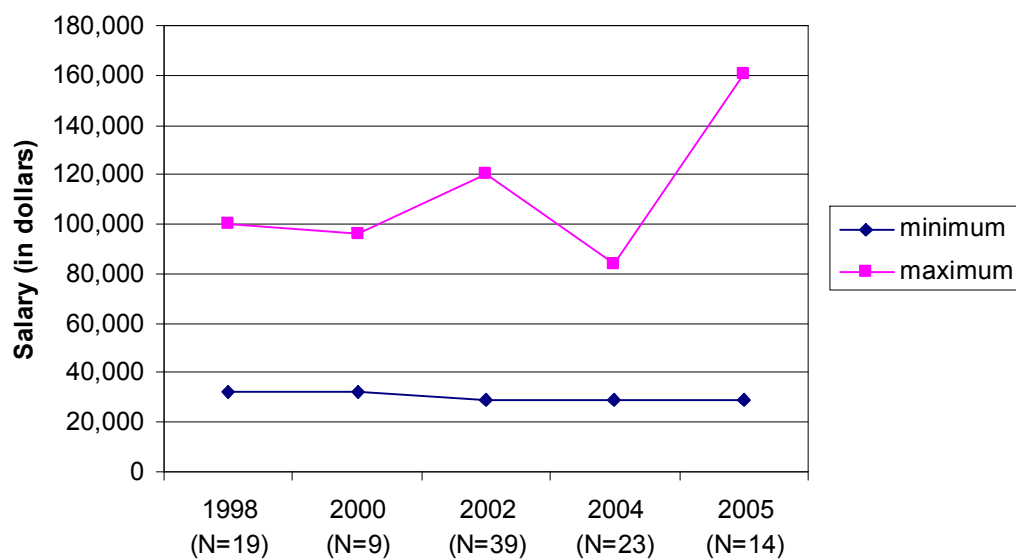


Figure 3: Maximums and minimums for salaries across the years

Geographic Location

The geographic areas with the most jobs were the Northeast (N=32), California (N=17), Mid Atlantic (N=16), and Midwest (N=14). Southeast and Southwest had 8 job announcements each. The East Central region had 7 jobs, while the Mid Central and Northwest each had 3 job listings. It was noted that there was one position in the New England area and there were two positions outside the US. Table 2 identifies the states constituting each of the geographic regions listed in Figure 4.

California	East Central	MidAtlantic	MidCentral
CA*	IN, KY, MI*, OH*	MD*, VA*, DE, WV	KS*, MO*, AR, NE, OK
MidWest	New England	NorthEast	NorthWest
IL*, IA*, MN*, WI*, ND, SD	ME, NH*, VT	CT*, MA*, NJ*, NY*, PA*, RI	OR*, WA, ID*, MT, WY
SouthEast	SouthWest	Other	
FL*, GA*, MS, NC*, SC, TN, AL, LA	AZ*, CO*, TX*, NM*, UT, NV*	Canada*, N/A*	

Table 2: Placement Opportunities within a Region
(* indicates states with positions).

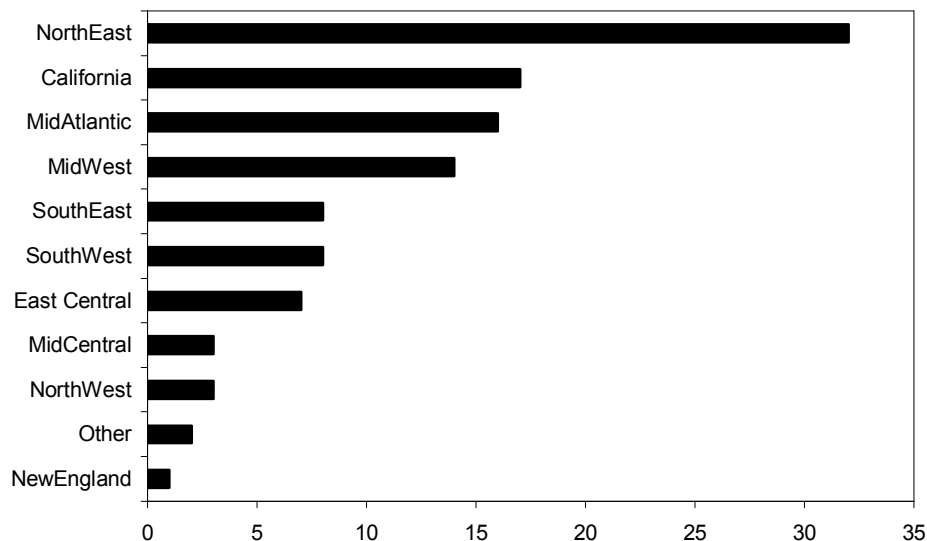


Figure 4: Position Location by Region

CONCLUSION

The authors hope that they have provided individuals seeking positions in Industry and Government/Military with a useful analysis of the placement opportunities available to human factors and ergonomics professionals. It is also hoped that these data may influence students in their course selections and academic institutions in deciding on course offerings.

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