**Course :** M.Sc.(Engg.)
**Department :** C.S.A.
**Date of Passing :**

Application for the post of ........................................
at .....................................................

## RESUME

| | |
|---|---|
| **Name** | KUNTAL DAS BARMAN |
| **Date of Birth** | 6th November, 1975 |
| **Age** | 25 |
| **Place of Birth** | Durgapur(West Bengal) |
| **Permanent Address** | 1A/15 VIDHYAPATI ROAD<br>DURGAPUR - 713205,<br>WEST BENGAL, INDIA<br>Phone (+91/0) 343 56 6470 |
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| **e-mail address** | kuntal@csa.iisc.ernet.in |
| **Marital Status** | BACHELOR |
| **Nationality** | INDIAN |
| **Known Languages** | ENGLISH, HINDI, BENGALI, FRENCH, GERMAN |

**Educational Qualification:**

| Examination passed | Board/Institute | Year | C.G.P.A. |
|---|---|---|---|
| M.Sc.(Engg.)(Comp. Sc. and Auto.) | INDIAN INSTITUTE OF SCIENCE | 2000-01 | 6.4/8 |
| B.E. (Computer Science and Engg.) | Jadavpur University, Calcutta | 1998 | 77% |
| Higher Secondary | W.B. Council of H.S. Education | 1994 | 80% |
| Madhyamik | W.B. Board of Secondary Education | 1992 | 80% |

**Details of courses done at the Institute:**

| **Sem I** |
|---|
| Formal Methods in Computer Science |
| Topics in Optimization |
| Cryptography and Coding Theory |
| **Sem II** |
| Design and Analysis of Algorithms |
| Computational Geometry |

**Research: A Survey on the Approximation Techniques for Network Design and Multiple Tool Milling Problems**

This survey starts with the study of *General Approximation techniques for constrained forest problems* by M. Goemans and D. Williamson. Then it goes on surveying how one can use this technique to get a constant factor approximation for *k Minimum Spanning Tree*, which includes 3-Approximation by Naveen Garg, 2.5-Approximation by Sunil Arya and Ramesh Hariharan and $2+\epsilon$-Approximation by Sanjeev Arrora and George Karakostas. Then it shows how the general approximation techniques can be applied on other related problems to get a constant factor approximation. This survey also includes an exact algorithm and a constant factor approximation for the *Multiple Tool Milling Problem On A Straight Line*. It finally concludes how the general approximation technique by Goemans and Williamson can be used on Multiple Tool Milling Problem.

**Major Projects in B.E.:**

1. Experimented with the Meta-heuristics, like Genetic Algorithm and Tabu Search, on the Pallet Loading Problem. A paper titled *Experimenting with Genetic Algorithm on Pallet Loading Problem* was published in 32nd Annual Proceedings of Computer Society of India. This project was done in **Indian Institute of Management, Calcutta**.

2. Final year project was to simulate various **Routing and Wavelength Assignment algorithms** in All-optical networks.

**Field of Special Interest:**

Approximation Algorithms and Randomized Algorithms.

**Software Skills:**

Programming Languages : C++, C, PASCAL, PERL, Shell Programming, JAVA, CAML
Operating system : Unix, Linux, Solaris, DOS, Windows 98

**Extra Curricular Activities**:

- Completed the *Introductory Course in French* and *Introductory Course in Everyday German*.
- Blue Belt in SHAOLIN-CHU-KUNG-FU.
- Know Graphology and Reiki.
- Participated in *Bungee Jumping*.
- Ran 6 KM and 22 KM in IISc-Gymkhana Annual Sports.
- Swimming, Trekking, Playing Hockey, Solving puzzles, Reading novels.

**References:**

| | |
|---|---|
| Dr. Ramesh Hariharan<br>CSA Dept, IISc,<br>Bangalore | Dr. V. Vinay<br>CSA Dept, IISc,<br>Bangalore |

**Place: Bangalore**
**Date :**

**Signature**
**CSA Department**
**Indian Institute of Science,**
**Bangalore-560012**